

ASG-PreAlert® IDMS User's Guide

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Preface

This *ASG-PreAlert IDMS User's Guide* takes you, step-by-step, through the operation of ASG-PreAlert (herein referred to as PreAlert). This publication instructs you on how to use PreAlert in performing real-time IDMS system monitoring and includes many sample screen illustrations that aid in instruction.

Allen Systems Group, Inc. (ASG) provides professional support to resolve any questions or concerns regarding the installation or use of any ASG product. Telephone technical support is available around the world, 24 hours a day, 7 days a week.

ASG welcomes your comments, as a preferred or prospective customer, on this publication or on any ASG product.

About This Document

This publication consists of these chapters:

- [Chapter 1, "Introduction,"](#) acquaints you with PreAlert features, including screen layouts, control and line commands, help and tutorial panels, and miscellaneous features.
- [Chapter 2, "Menu Reference,"](#) discusses better utilization of the Master Menu facility within PreAlert.
- [Chapter 3, "Active Task Data,"](#) discusses how PreAlert allows you to display and monitor active tasks.
- [Chapter 4, "Run Unit Data,"](#) explains how to specify selection criteria for the display of run units.
- [Chapter 5, "Task Definitions,"](#) explains how to specify task definitions for display.
- [Chapter 6, "Program Definitions,"](#) explains the specification, selection, and display of program definitions.
- [Chapter 7, "Database Areas,"](#) provides information for selecting database areas for display.
- [Chapter 8, "Files,"](#) provides information about the various types of PreAlert file definition data.

- [Chapter 9, "Buffers,"](#) discusses how PreAlert allows you to select buffer definitions and display buffer names.
- [Chapter 10, "Journal Definitions,"](#) discusses how PreAlert dynamically allocates and reads the IDMS journals to obtain accurate status data for each journal.
- [Chapter 11, "Line Definitions,"](#) explains how line definitions and line IDs are selected for display.
- [Chapter 12, "Terminal Definitions,"](#) provides information on how PreAlert allows you to monitor terminal definitions and physical terminal IDs.
- [Chapter 13, "IDMS CV Internals,"](#) discusses the specification, selection, and display of CV internal data such as memory mapping; storage, program and reentrant pools; system statistics; and logical terminal usage.
- [Chapter 14, "Supplementary Features,"](#) describes additional features, such as IDMS Statistics Logging, IDMS Vary Line Command, and issuing IDMS commands.
- [Chapter 15, "Exception Analysis,"](#) explains how PreAlert provides a means of automatically locating potential problems within your IDMS CV(s).
- [Chapter 16, "Local Mode Interface,"](#) describes the IDMS local mode batch job statistics that PreAlert captures through SIRF, an optional companion product to PreAlert.
- [Chapter 17, "ASG-Replication Suite Real-Time Option Interface,"](#) describes statistics PreAlert can display that are maintained by the ASG-Replication Suite Real-Time Option.

Related Publications

The complete documentation library for ASG-PreAlert consists of these publications (where *nn* represents the product version number):

- *ASG-PreAlert IDMS/MVS System Guide* (PAC1400-*nn*) provides information regarding PreAlert realtime operating system.
- *ASG-PreAlert IDMS User's Guide* (PAI0200-*nn*) provides complete instructions on how to use PreAlert for performing realtime IDMS system monitoring.
- *ASG-PreAlert MVS User's Guide* (PAM0200-*nn*) describes the functions and operations of PreAlert as a monitor and control system in the MVS environment.
- *ASG-PreAlert MSP System Guide* (PAF1400-*nn*-MSP) describes the codes and abends useful to operating ASG-PreAlert MSP.
- *ASG-PreAlert MSP User's Guide* (PAF0200-*nn*-MSP) provides complete instructions on how to use ASG-PreAlert MSP for performing realtime MSP system monitoring.

Note:

To obtain a specific version of a publication, contact the ASG Service Desk.

Publication Conventions

ASG uses these conventions in technical publications:

Convention	Represents
ALL CAPITALS	Directory, path, file, dataset, member, database, program, command, and parameter names.
Initial Capitals on Each Word	Window, field, field group, check box, button, panel (or screen), option names, and names of keys. A plus sign (+) is inserted for key combinations (e.g., Alt+Tab).
<i>lowercase italic</i> <i>monospace</i>	Information that you provide according to your particular situation. For example, you would replace <i>filename</i> with the actual name of the file.
Monospace	Characters you must type exactly as they are shown. Code, JCL, file listings, or command/statement syntax. Also used for denoting brief examples in a paragraph.
Vertical Separator Bar (|) with underline	Options available with the default value underlined (e.g., Y|<u>N</u>).

1

Introduction

PreAlert is a real-time IDMS control system which targets and corrects problems across single or multiple central versions (CVs), or single or multiple address spaces, thus enhancing management and control of your IDMS processing environment.

Upon PreAlert installation, all your CVs are concurrently managed using MVS Cross Memory Services, providing operational readiness for your data center to meet service level objectives at any time.

This chapter acquaints you with the main features and functions of PreAlert and explains its screen displays. These topics are covered:

PreAlert Functions	3
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Default IDMS Jobnames	4
Using IDMS Jobname Lists	4
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Monitoring and Control Tips	6
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PreAlert Functions

PreAlert has three interdependent functions:

Monitoring. PreAlert executes externally and transparently to CVs. It traces IDMS events from dedicated address space or from TSO sessions.

Alerting. PreAlert Exception Analysis for IDMS and MVS compares actual data to problem thresholds, targets the problem incident, and issues an audible alarm. PreAlert also sends a message to your TSO session and/or the operator console, and writes the incident to a log file.

Controlling. PreAlert lets you execute any DCMT (in IDMS), MVS, or VTAM command to correct or forestall a diagnosed problem condition.

IDMS Interface

PreAlert uses Cross Memory Services (CMS) to gather information from the address space in which IDMS is executing. PreAlert looks at the control blocks that are maintained in virtual storage and reads the journals and log files. Due to the dynamic nature of IDMS, its control blocks are constantly changing, preventing PreAlert from being able to locate pointer chains. This results in some information being missed while control blocks are being moved or updated.

The IDMS line command is used to specify the jobname for the IDMS address space. PreAlert will locate the address spaces using the jobname and verify that IDMS is being executed. For example:

```
IDMS IDMSCV V2 IDMS INTERFACE ACTIVE TASKS: 19 2.47/SEC
```

where:

IDMSCV is the jobname

V2 is the version number

19 is the number of active tasks

2.47/SEC is the tasks completed per second

IDMS Statistics and Rates

Each time the IDMS line command is used to monitor an IDMS CV, PreAlert collects data for IDMS system statistics, active tasks, run units, journals, buffers, etc. This data is examined by Exception Analysis and used to build the displays for the line commands following the IDMS line command.

PreAlert retains selected data from the last time the CV was monitored. This prior data allows PreAlert to calculate the rates at which certain resources are being used. These rates include CPU utilization for the CV, overall input and output rate, input and output rates by buffer or area, task rates, etc.

Additionally, PreAlert will periodically save another set of this data to be used for interval statistics. This provides a long term view of resource usage within the CV. The length of the statistics interval may be specified by the user. Refer to ["IDMS Statistics Interval" on page 316](#).

Default IDMS Jobnames

If the IDMS line command is entered without a jobname, either by the user or in the screen definition, PreAlert supplies a jobname as follows:

- When multiple IDMS jobnames are used on a single display, their order is retained. Use the jobname from an earlier IDMS display. IDMS jobnames are carried across screens.
- When IDMS Exception Analysis invokes screen chaining, PreAlert uses the jobname for the IDMS CV causing the exception.
- When an IDMS jobnames list has been selected for the user ID, PreAlert selects a jobname from the list if the jobname is being executed. See ["Using IDMS Jobname Lists" on page 4](#) below.
- When the IDMS line command is used for the first time, PreAlert uses the PROIDMS jobname specified in the UDPARMS userdata macro.

Additional information about the userdata macro can be found in the "Userdata Macros" chapter in the *ASG-PreAlert IDMS/MVS System Guide*.

Using IDMS Jobname Lists

The IDMS jobname lists allow large installations to monitor multiple IDMS CVs across several processors without the need to build individual screens for each processor. For example:

An installation has a total of 10 IDMS CVs that may be run across three processors.

A PreAlert session (user ID AUTO1) is active on each of the three processors. The startup JCL contains the following parms:

PARMS=(SCR=MAINMENU,USR=AUTO1,USC=AUTOSCR1,...)

Each session using a screen with the IDMS line command repeated 10 times on the screen (no jobnames entered with the line command). The user has built the AUTOSCR1 member in the PreAlert help file as follows:

```

IDMS
IDMS
IDMS
IDMS
IDMS
IDMS
IDMS
IDMS
IDMS
IDMS
IDMS
.INT 30

```

USERDATA contains the following:

```

      UDPARMS  IDMSMAX=10,
      ...
      UDAUSER  AUTO1,IJOBS=(IJOBA1)
      ...
IJOBA1  UDIJOBS  IJOBS=(IDMS01,IDMS02,IDMS03,IDMS04,IDMS05,
      IDMS06,IDMS07,IDMS08,IDMS09,IDMS10)
      ...

```

The UDPARMS IDMSMAX keyword set the maximum number of IDMS line commands per screen to 10. The UDAUSER macro authorizes the AUTO1 user ID, and associates the IJOBSA1 IDMS jobname list with the user ID. The UDIJOBS macro builds the IJOBSA1 IMDS jobname list. IDMS jobnames IDMS01 through IDMS10 are specified just as a sample you can use any IDMS jobnames you need.

As IDMS CVs are started, PreAlert automatically begins to monitor the IDMS CVs as long as their jobname has been included in the IJOBSA1 list. PreAlert will not automatically monitor the IDMS CVs not included in the list. To monitor those IDMS CVs, you must manually enter the jobname after the IDMS line command, or use a screen that has the jobname hardcoded in it.

As the IDMSCVs are shutdown, PreAlert automatically drops them from the display.

Selecting IDMS CV Names by Number

The IDMS CV jobnames can be specified numerically with IDMS line commands by indicating the corresponding number as assigned in the userdata macro UDCVNUM. When *.n* is specified, PreAlert will scan the table of CV names and corresponding numbers and will substitute the CV name in the IDMS line command.

Refer to the UDCVNUM macro in the "Installation of PreAlert" chapter in the *ASG-PreAlert IDMS/MVS System Guide* for additional instruction on the specification of CV jobname and number.

Monitoring and Control Tips

PreAlert accesses information from control blocks within the IDMS address space for its displays. To retrieve and display the information requested, the user must have the STATS COLLECT option set ON. Without this option activated, much of the data for active task statistics displays will be blank.

Monitoring Swappable CVs

PreAlert uses the Cross Memory Services feature of MVS to monitor IDMS CVs. Cross Memory Services requires that the target address space be swapped in. Attempting to use Cross Memory Services to a swapped-out address space will result in either a system 058 or 0D5 abend. To prevent these problems, PreAlert examines the MVS control blocks for the IDMS address space to determine its swap status. The action taken for swapped-out address spaces is determined by the userdata IDMSSRB option.

If IDMSSRB has been specified as Y or allowed to default to Y, PreAlert will schedule an SRB to the IDMS address space to temporarily mark the address space as non-swappable using the MVS SYSEVENT DONTSWAP macro. When PreAlert has completed monitoring the IDMS CV, the SRB is scheduled again with the SYSEVENT OKSWAP macro to allow MVS to swap-out the address space.

When IDMSSRB has been specified as N and the CV has been swapped-out, PreAlert is not able to monitor the CV and will display an error message. If the CV is swapped-in, PreAlert will attempt to monitor normally. Due to the dynamic nature of MVS dispatching, it is possible for PreAlert to encounter 058 and 0D5 abends when the IDMS CV is swapped-out while PreAlert is monitoring the CV. If these abends occur repeatedly, either make the CV non-swappable or set IDMSSRB=Y.

PreAlert and IDMS Journals

PreAlert dynamically allocates the IDMS journal files to obtain their current status from the journal header record. This status is used for the Journal File Full count exception and the journal status line command, JRST. The journal file allocation can be controlled using the userdata IJRNL and IJRNLF keywords. Refer to the chapter "Userdata Macros" in the *ASG-PreAlert IDMS/MVS System Guide*.

The IJRNL keyword specifies the Journal Read Interval (i.e., how often PreAlert reads the journal header records). A low value (a minute or less) will result in more timely and accurate information but could cause contention for the journal. A high value, more than one minute, will reduce contention but will result in less timely information. An extremely high value of five minutes or more may cause unacceptable delays in detecting the Journal File Full exception.

Normally, PreAlert will allocate and open the journal files when it begins monitoring an IDMS CV and retain the allocation until either the PreAlert session is stopped, or PreAlert detects that the CV has been shutdown. The IJRNLF keyword may be used to force PreAlert to free or deallocate the journals after each read interval. This would require PreAlert to allocate, open, read, close, and deallocate the journals every journal read interval. This may cause additional overhead, but eliminates any enqueue contention with jobs requiring exclusive allocation of the journals.

The IJRNLF keyword may have any of the following values:

Keyword/Value	Description
IJRNL=-1	PreAlert will never allocate or read the IDMS journals. The Journal File Full exception and JRST line commands will not be available. IJRNLF is ignored.
IJRNL=0,IJRNLF=N	PreAlert will allocate and open the journals when it begins to monitor the CV. The journals will be read each PreAlert cycle.
IJRNL=30,IJRNLF=N	PreAlert will allocate and open the journals when it begins to monitor the CV. The journals are read on a 30-second interval.
IJRNL=180,IJRNLF=Y	Every three-minute interval, PreAlert will allocate, open, read, close and de-allocate the journal files.

PreAlert and IDMS DC Log

PreAlert dynamically allocates the IDMS DC log to accurately determine the percentage of the log file that has been used. This percentage is reported in the CSTK line command and is used for the Log area percentage full exception.

The UDPARMS macro DCLOG keyword lets the user allow or suppress the allocation of the DC log. Specifying DCLOG=Y as the default allows PreAlert to dynamically allocate the DC log. If DCLOG=N is specified, PreAlert will not allocate to the DC log and a zero value will be used for the DC log usage.

Refer to "Userdata Macros" in the *ASG-PreAlert IDMS/MVS System Guide* for details on the UDPARMS macro.

IDMS SYSGEN Parameters

The IDMS SYSGEN CHKUSER TASKS parameter must be set to a value other than zero (0). Setting the value to zero could cause PreAlert to display a message such as IDMS CSA NOT FOUND.

PreAlert Displays

The first line of all PreAlert screens shows the name of the screen currently being displayed, the current time and date, and current system CPU utilization. The date/time stamp and CPU utilization are always current and are not affected by the Freeze Frame option.

On the COMMAND line, you may enter the name of the screen you want to display, enter SCREENS to display all defined screens, or enter MAINMENU to enter the Menu facility. Additionally, enter the control commands used in tailoring, saving, and controlling PreAlert display screens.

Use the subsequent lines to construct the display by entering line commands. These line commands control, select, and display the data. The four-character line commands are entered in the first four columns of each line. The remaining columns on each line are used either to display the requested information or to allow entry of additional input.

[Figure 1](#) shows how line commands display information. The table following the figure describes each line command.

Figure 1 • Line command displaying information

```

COMMAND: _____ SAMPLES    16:27:00.9  93.030  92.15% .TUT for Tutorial
IDMS IDMSPROD V1      IDMS INTERFACE ACTIVE    TASKS:  23    2.85/SEC

CPU-RATE I/O RATE PIN-RATE
+      36.12%    48.24      .00

ATSL TYP=UE
ATID      5380      5382      5383      5385      3856
ATCD OPAB10S T447      OPAB08S T220      *ERUS*
ATTT  3.70S      2.44S      2.01S      0.52S      8:12M

```

Command	Description
IDMS	A CONTROL command to activate the IDMS interface and specify the jobname of the IDMS central version to be monitored.
CSMV	A DISPLAY command to display the MVS usage statistics for the IDMS CV.
+	The plus sign, generated by PreAlert, indicates the continuation of the previous line command.
ATSL	A CONTROL command to allow entry of keyword parameters for selecting active tasks.
ATID	A SELECT command to select active tasks for display and show their task ID number.
ATCD	A DISPLAY command to show the task code.
ATTT	A DISPLAY command to show the transaction time.

Additional line commands may be entered in any of the blank lines on the screen. These may display additional active task information, or another series of control, select, and display line commands.

Screen Definitions

Screen definitions are maintained in either the PreAlert HELPFILE PDS or in your personal screens file PDS. Each definition consists of 1 to 64 eighty-byte records containing the line command and any input to the line command.

All 64 line commands, if specified, will be processed even when the display overflows the screen display limit. Additional scrolling is provided to view additional display lines through the .SCROLL UP and .SCROLL DOWN line commands.

Note: _____

The actual number of lines displayed depends on the screen size of the terminal and the number of continuation lines generated by the line commands.

Pre-defined Screens

Enter SCREENS in the COMMAND input area to display the names of all defined screens. See [Figure 2 on page 11](#) for a list of all defined screens. Display specific screens by entering the screen name in the COMMAND input area, or by moving the cursor to the desired screen name and pressing Enter.

The predefined screen names will be displayed starting with the screen names from your personal screens file (if allocated) followed by a <<====>> separator. Next, the screen names from the installation alternate help file (if allocated) are displayed followed by another <<====>> separator. Finally, the screen in the PreAlert system help file will be displayed.

Figure 2 • Names of all defined screens

```

COMMAND:_____ SCREENS      16:27:00.9  93060  41.72%  .TUT for Tutorial
SCRN  TREYA   TREYB   TREYC   TREYP   TREYT   TREYW   <<====>> ACTVPGMS
+     ACTVTAS& ALLJOB  ATPR    ATRU    ATTK    ATTR    ATTW    BLANK
+     CONSOLE  CSA     DBAREAS  DISK    DISKBUSY  DISK1    DT      DTRACE
+     DUMP     FIELDS  FIXED   FRAMES  IDMSACTV  IDMSSTAT  IDMSSTA1  IDMSSTAT2
+     JOBCPU   JOBENQ  JSPLLOT  NEWJOB  PAGEABLE  PAGESWAP  PAGING   PFKEYSCN
+     PLOTS    PLOTSP  PRDWAIT1  PRODDB  PRODDUMP  PRODPPOOL  PRODSTG  PRODWAIT
+     PRR      SCREENS  SRM      SRMTO   SRM2     TAPE     TESTTASK  TSO
+     TSOWAIT  TSOWAIT1  WAIT     WAIT1

```

PreAlert Background Session

PreAlert can operate in background mode. Activate a PreAlert session and press the Clear key or use the .BG_{nnn} control command. This will release your terminal back to TSO or VTAM, but the PreAlert session will continue to execute in the PreAlert address space. Your terminal can then be used for other functions (i.e., TSO or SPF).

After activating the IDMS Exception Analysis functions, PreAlert notifies users of any impending problems with their operating environment by means of the USR= notify option in the IDMS Exception Definitions. For the proper syntax, refer to the appropriate option sections in ["Exception Analysis" on page 333](#).

To re-establish your PreAlert session execute the CLIST for TSO or follow the VTAM logon procedure for VTAM started tasks. Refer to the "Installing PreAlert" chapter in the *ASG-PreAlert IDMS/MVS System Guide* for expanded information on PreAlert background sessions.

Note: _____

Background sessions are available only through the PreAlert Multiple User Session manager; they are not available through the PreAlert/Local TSO Option. Refer to the chapter "Installing PreAlert" in the *ASG-PreAlert IDMS/MVS System Guide* for a discussion of the different PreAlert sessions.

PreAlert Functional Facilities

The commands used to control the PreAlert functional facilities may be entered in two ways:

- Control commands may be entered through the COMMAND input area on the top line of the screen. Control commands allow for quick entry of commands but may not be saved with the screen.
- Line commands may be entered on the body of the display screen. Line commands may be saved along with the screen definition.

Building and Saving Screens

Screen definitions may be saved by entering the `.=` control command. A single character should also be entered with the control command to be used as a suffix to your TSO user ID to form the screen name. For example entering `.=C` would result in the screen definition being saved as user ID C. The screen may then be retrieved by entering either the full name (user ID C) or by entering the suffix C and pressing Enter.

Build screen definitions through Build Screen mode, especially if input is associated with the line commands. Build Screen mode displays the line commands and line command input; all line command processing is bypassed. PFKeys or Edit line commands may be used to insert, change, and delete line commands. Build Screen mode is invoked by the `.BLDS` control command and exited by the `.BLDSOFF` control command.

The MEMREP keyword in the UDPARMS macro will prevent a user from accidentally overlaying an existing screen. If MEMREP=Y has been specified, the replace option `.=x, R` must be added to the save command in order to replace a screen. (See the chapter "Userdata Macros" in the *ASG-PreAlert IDMS/MVS System Guide*.)

For example: entering `.=C, R` would replace the user ID C screen. Entering `.=C` would not replace the user ID C screen and an error message would be displayed.

Screen Editing Commands

Screen editing commands are similar to those utilized by ISPF. All edit line commands must be followed by a space or they will not be recognized by PreAlert.

Command	Function
I_n	Insert n lines (default = 1)
IB_n	Insert before n lines
M_n	Move n lines
C_n	Copy n lines
A_n	After target for move/copy (repeated n times)
D_n	Delete n lines
R_n	Repeat this line n times
DD	Block delete
CC	Block copy
MM	Block move
RR_n	Block repeat n times

Screen Print Facility

The Screen Print facility controls the ability to automatically print the contents of the current screen with each update. These control and line commands are used:

Command	Function
.PRT	The .PRT line command is used to specify the number of times the screen is to be printed and the SYSOUT class.
.PRT 5,X	This command will result in the contents of the screen being printed to SYSOUT class X for the next five updates.
.SPN	The .SPN line command or control command will close the current print file and un-allocate it. This allows immediate printing of the file without having to terminate the PreAlert session.

Command	Function
.HOLD	The .HOLD control command allows you to specify HOLD=YES for the print file. .HOLDOFF may be used to remove the HOLD=YES attribute so that the file can be printed.
.DST	The .DST line command allows a remote SYSOUT destination to be specified.
.DST R0	This command specifies that the SYSOUT file is to be routed to the main system printer.

Note:

The current SYSOUT class, hold, and destination attributes remain in effect until the print file has been spun-off. After that, they may be changed.

Screen Print Line Command

The PRNT line command is used to specify the SYSOUT class, HOLD attribute, destination, and print count for the file. It is also used to close (spin-off) the print file.

Keyword	Function
CLS= <i>x</i>	Specify SYSOUT class
SPN=Y	Close (spin-off) the file
HLD=Y/N	Specify HOLD attribute
DST= <i>destination</i>	Specify SYSOUT destination
CNT= <i>n</i>	Specify print count
DDN= <i>ddname</i>	Specify DDname for the file. If the DDname is already in use, dynamic allocation will generate a unique DDname.

In [Figure 3](#), the PRINTDD file was allocated to SYSOUT class X, with HOLD=YES and DST=RMT24. The screen contents is printed automatically through the next five updates (CNT=5) of PreAlert.

Figure 3 • PRNT line command example

```
PRNT CLS=X,HLD=Y,DST=RMT24,CNT=5,DDN=PRINTDD  
+ OPEN CLASS:X HOLD:Y DEST:RMT24 COUNT:5 DDNAME:PRINTDD
```

Note:

The PRNT line command must appear on each screen to be printed.

Automatic Screen Options

The Automatic Screen Options provide the ability to process a series of one or more screens either sequentially or as a called subroutine. Sequential processing implies linking screens together to pass control from one screen to another, similar to a GOTO or branch instruction. Processing screens as a subroutine involves calling the screens, then returning control to the original screen.

Screens may be linked together in a series by using the .ASL line command, which specifies the number of times the current screen is to be displayed, and the screen that is to be displayed afterwards.

Command	Display
.ASL 5,NEXTONE	After the current screen is displayed 5 times, the NEXTONE screen is displayed.
.ASL *	Cancel automatic screen option. The .CAGO control command will also cancel the automatic screen option.

The ability to call a screen or a series of screens is provided by the .ASC line command. When a call is requested, PreAlert remembers the contents of the current screen, then displays the called screen. The called screen should use the .RET line command to return to the original screen.

Command	Display
ASC 5,CALLED	After the current screen is displayed 5 times, the CALLED screen will be displayed.
.ASC *	Cancels automatic screen calling. The .CAGO control command will also cancel automatic screen calling.

The screen control command also provides screen calling. This allows the user to call a screen to display some specific data, then return to the original screen.

Note:

Screen calling may also be invoked through Timed Screen Calling, which is explained under ["Timed Screen Services" on page 18](#). See also ["IDMS Exception Analysis Screen Options" on page 431](#).

While a called screen is active, one of these messages displays in the command line to indicate the source of the called screen:

Message	Source
CMD SCREEN ACTIVE	Screen Command
ASC SCREEN ACTIVE	Automatic Screen Calling
TSC SCREEN ACTIVE	Timed Screen Calling
EXA SCREEN ACTIVE	MVS Exception Analysis
IDX SCREEN ACTIVE	IDMS Exception Analysis

PreAlert supports only one level of screen calling. That is, PreAlert will not allow screen calling requests while a called screen is being displayed. The MVS and IDMS Exception Analysis Screen Chaining option is suppressed while a called screen is active. Requests from Automatic Screen Calling and Timed Screen Calling will be delayed until the called screen returns to the calling screen.

If multiple requests occur simultaneously from either MVS or IDMS Exception Analysis, requests will be serviced based upon priority. Other requests for screen calling from Automatic and Timed Screen Calling will be delayed while the called screen is active.

Automatic Update

When PreAlert is placed into Automatic Update mode, PreAlert automatically updates the display without any user interaction. Additionally, the updates may be synchronized to occur on the minute.

Command	Function
.INT <i>nnn</i> [,x]	The display will be updated every <i>nnn</i> seconds.
.INT <i>nnn</i> ,X	The display will be updated every <i>nnn</i> seconds and is synchronized to occur on the minute. Valid values for <i>nnn</i> are 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, and 60. Other values will suppress the synchronize option.
Example:	
.INT 30,X	PreAlert is placed in automatic update mode. All subsequent updates will occur either on the minute or 30 seconds after the minute.

Note:

If the user enters any input while in Automatic Update mode, the PreAlert session returns to Manual mode.

ISP supports the PreAlert Automatic Update feature. When Automatic Update is active, the terminal keyboard is locked, preventing any other activities on the terminal. To stop the Automatic Update, press either the PA1 key for local terminals or the ATTN key for remote terminals. PreAlert waits for the Automatic Update interval to complete and then refreshes the display and unlocks the keyboard.

Caution! User working on 3270 emulators must determine the correct key to stop PreAlert's Automatic Update feature. End the PreAlert session if you do not know the correct key to stop PreAlert's Automatic Update feature. The MVS modify command (F PREALERT, STOP, *userid*) may be used to terminate PreAlert sessions.

The Automatic Update may be secured. Refer to the "PreAlert Security Considerations" chapter of the *ASG-PreAlert IDMS/MVS System Guide*.

Timed Screen Services

PreAlert's Timed Screen Services provide the ability to automatically link or call another screen at a specified time of day. Timed screen linking passes control to a screen at a specific time. Timed screen calling calls a screen at a specific time. Refer to ["Automatic Screen Options" on page 15](#) to distinguish between linking and calling a screen.

Both timed screen linking and calling provide a primary and three alternate time and screen sets. Each time and screen set is maintained independent of the other sets. The primary and alternate designations are used only when multiple requests occur simultaneously. The primary set is then processed, followed by the first, second, and third alternates.

Timed Screen Services are provided by these line commands:

Command	Function
<code>.TSL time,screen</code>	Primary timed screen linking.
<code>.TL1 time,screen</code>	First alternate timed screen linking.
<code>.TL2 time,screen</code>	Second alternate timed screen linking.
<code>.TL3 time,screen</code>	Third alternate timed screen linking.
<code>.TSC time,screen</code>	Primary timed screen calling.
<code>.TC1 time,screen</code>	First alternate timed screen calling.
<code>.TC2 time,screen</code>	Second alternate timed screen calling.
<code>.TC3 time,screen</code>	Third alternate timed screen calling.

Where time may be specified in one of the following formats:

Format	Description
<code>hhmm</code>	Time of day, 0000 through 2359.
<code>+nnn</code>	Current time of day plus <i>nnn</i> minutes.
<code>*</code>	Cancel Timed Screen Service.

Use the Timed Screen Service line command to request the timed screen service once. After the service has been established, the line command is no longer needed. PreAlert will remember the request until the time is reached or the request is cancelled.

For example, a series of screens is to be called at 10:00 P.M. and 1:00 A.M. The first screen is to be displayed for two minutes, the second screen for another two minutes, then the third screen is displayed only once to return control to the original screen.

The screens are built as follows:

Screen	Function
Screen INIT:	
.TSC 2200,SCREEN1	Call SCREEN1 at 10:00 P.M.
.TC1 0100,SCREEN1	Call SCREEN1 at 1:00 A.M.
.RET 1	Return to calling screen.
Screen SCREEN1:	
.TSL 2,SCREEN2	After two minutes, link SCREEN2.
.PRT 10,x	Print the screen to Class x.
.INT 10	Automatic Update at 10 seconds.
....	MVS or IDMS line commands.
Screen SCREEN2:	
.TSL +2,SCREEN3	After two minutes, link SCREEN3.
.PRT 10,x	Print the screen to Class x.
....	MVS or IDMS line commands.
Screen SCREEN3:	
.RET 1	Return to calling screen.

During the day, the user enters the INIT control command to initialize the timed screen services; these screens are then activated at these times:

Time	Activated Screen
10:00:00 P.M.	SCREEN1 is called and updated every 10 seconds for 2 minutes.
10:02:00 P.M.	Link to SCREEN2, which is updated every 10 seconds for another two minutes.
10:04:00 P.M.	Link to SCREEN3, which returns control to the screen that was active at 10:00 P.M.
10:04:10 P.M.	Continue with the original screen, etc.
01:00:00 A.M.	SCREEN1 is called and the entire scenario is repeated.

Screen Fields Help

Type `.HELP` and press Enter for a short description of each line command field to be displayed on the screen ([Figure 4](#)).

Figure 4 • Screen fields help

```
IDMS INTERFACE - JOB NAME

CSMV IDMS CURRENT STATISTICS - MVS USAGE
+   CONTINUATION LINE

ATSL ACTIVE TASK - SELECTION PARMS
ATID ACTIVE TASK - TASK ID
ATCD ACTIVE TASK - TASK CODE
ATTT ACTIVE TASK - TRANSACTION TIME
==== LINE SEPARATOR / AUTO-REPEAT
```

Press Enter to display the original screen.

Enter Tutorial Facility

The online interactive tutorial can be viewed in two ways. To start at the beginning of the tutorials, position the cursor at the HOME or HEADER COMMAND area, type `.TUT1` and press Enter.

Select the area of interest from the menu, type in the corresponding number, and then press Enter. This invokes Tutorial Screen 1.

Figure 5 • Tutorial Screen 1

```

COMMAND:          MAINMENU   16:07:34.6  93.060  90.31%  Tutorial   1 +
.
.   SUBJECT                      TUTORIAL SCREEN
.
.   Screen Definitions . . . . . 2
.   PreAlert Functional Facilities . . . . . 50
.   PF Key Support . . . . . 100
.   Restricted Functions . . . . . 1000
.
.   PreAlert.MVS . . . . . 150
.
.   PreAlert.IDMS . . . . . 2000
.
.   Enter Tutorial Screen number to display tutorials.
.   Enter .END to exit tutorials.
.
.   The current tutorial screen number is displayed in the upper right
.   corner of the display. When the tutorial screen number is followed
.   by a plus sign "+", press enter to display the next tutorial screen.
.

```

The second way to view the online tutorial is to position the cursor on the desired line command after keying .TUT in the COMMAND area and press Enter. The major section for that line command displays.

Scroll

To scroll forward, backward, or to a specific line, type .SCROLL and the line number to be displayed, then press Enter. When the .SCROLL_{nnn} control command is used, no refresh of the PreAlert screen displays occur. Additionally, the + and - _{nnn} can be specified for scrolling up or down with the display. You may also scroll to the cursor location by entering .SCROLL. Position the cursor on the desired line and press Enter.

The .UP and .DOWN control commands may be used to scroll up or down through the display screen. By default, the commands will scroll the entire screen. You may scroll up or down to the cursor location by entering either .UP or .DOWN, position the cursor on the desired line, and press Enter. For .UP, the desired line is placed at the bottom of the screen. For .DOWN, the line is placed at the top of the screen. To scroll any number of lines, specify .UP_{nnn} or .DOWN_{nnn}.

Shift Right or Left

When utilizing the .LEFT and .RIGHT shift commands, PreAlert displays a counter message on the ==== line.

To shift the display to the left, enter `.LEFTnn`, where *nn* is the number of fields to move and press Enter. For example, entering `.LEFT3` shifts the screen to the left three fields, no longer displaying the designated fields.

To shift the display to the right, enter `.RIGHTnn`, where *nn* is the number of fields, and press Enter. The screen will shift to the right, no longer displaying the designated fields.

Copy Screen

To copy a screen into the current screen, type

```
./screen
```

where *screen* is the name of the screen to be pasted.

In the COMMAND input area type

A

on the line command where the copied screen is to follow.

Next, press Enter. The screen will be copied into the current screen at the indicated position and the screen will be updated.

Figure 6 • Screen before

```

COMMAND:./TAPE SCREENS      16:27:00.9  93.060  41.72%
JSEL SEL=JT,REP=N
JOB  PRODIDMS TESTIDMS TREY      MKW050D  TKCS      OPD100D  TESTLOC  MFGTEST  +
PROC PRODIDMS TESTIDMS $TSUSER1 MKW050D  $TSUSER  OPD100D  TESTLOC  MFGTEST
STEP IDMS      IDMS      STEP1      STEP3      STEP2      STEP1
DPRT  AE(174)  9A(154)  FF(255)  80(128)  FF(255)  87(135)  FF(255)  AE(174)
TMTR  7:21H    7:17H    1:22H    1:24H    2.20M    4:22M    7:39M    .73S

A == =====
SYSP CPU    1    62.07% *****... ..
+  CPU    2    62.24% *****... ..
+  SYSTEM   62.15% *****... ..

```

Figure 7 • Screen after

```

JSEL SEL=JT,REP=N
JOB  PRODIDMS TESTIDMS TREY      MKW050D  TKCS      OPD100D  TESTLOC  MFGTEST  +
PROC PRODIDMS TESTIDMS $TSUSER1 MKW050D  $TSUSER  OPD100D  TESTLOC  MFGTEST
STEP IDMS      IDMS      STEP1      STEP3      STEP2      STEP1
DPRT  AE(174)  9A(154)  FF(255)  80(128)  FF(255)  87(135)  FF(255)  AE(174)
TMTR  7:21H    7:17H    1:22H    1:24H    6.20M    4:24M    7:43M    .73S

=====
TAPE      480      481      482      483
TVOL  703825  707221
TUSR  OPD100D  OPD100D
TLBL   1  SL   1  SL
TSIO   1420   1587

=====
SYSP CPU    1    67.07% *****... ..
+  CPU    2    67.24% *****... ..
+  SYSTEM   65.15% *****... ..

```

In the previous example, the contents of the TAPE screen were copied into the current screen following the ===== line command. Only the line commands are copied; blank lines are not copied into the current screen.

Switch to Background Session

The .BG nnn control command switches your session to a background session with the Auto-update interval (.INT) set to nnn seconds. This is an alternative to using the Clear key. The .BG nnn command must be used when PreAlert is being run as an ISPF application, since ISPF does not pass the Clear key to PreAlert. See ["PreAlert Background Session" on page 11](#) for more information.

Color Support

PreAlert supports extended attributes for color and highlighting on 3270 terminals. The color and highlighting attributes are useful in adding extra impact for statistics, exception messages, comments, and menu items.

For PreAlert sessions running under ISPF, color support is automatically activated when the session is started. For other PreAlert sessions, VTAM and native TSO, color support may be activated using the .COLR control command.

Command	Definition
.COLRON	Full color support
.COLRXON	Color support for exception messages only

The .CLR line command may also be used to activate color support..

Command	Definition
.CLR ON	Full color support
.CLR XON	Color support for exception messages only

PreAlert has five basic display types, based on the type of data being displayed or the type of input that may be entered.

Display Types	Input and Output	Monochrome Attributes	Color Attributes
Normal data displays	Output	Normal	Blue normal
Messages, exception data	Output	Bright	White normal

Display Types	Input and Output	Monochrome Attributes	Color Attributes
Line commands	Input	Normal	Green normal
Line commands Input areas	Input	Bright	Red underscore
Command, blank lines	Input	Bright	Red normal

The default color attributes may be changed using the UDPARMS macro. The *ASG-PreAlert IDMS/MVS System Guide* contains a description of the UDPARMS macro and the default color assignments.

The color attributes for individual users are saved in their PreAlert profiles, saving the colors across PreAlert sessions. These color attributes may be altered via line commands.

The COLOR1 screen contains the line commands used to alter color attributes.

Line Command	Display Type
COPN	Normal data displays
COPH	Messages, exception data
COUN	Line commands
COIN	Line command input areas
COUH	Command, blank lines

Each of these line commands allows you to assign a color and highlighting attribute to the display type.

Valid Colors: RED, BLUE, TURQ, YELLOW, WHITE, GREEN, PINK
Valid Highlights: NORMAL, USCORE, REVERSE, BLINK

Example:

COPH WHITE,USCORE Assigns white color and underscore attributes to the display type for messages and exception data displays.

The user may customize the color and highlighting attributes for comments and menu items. Within the comment the user may include special characters that represent a specific set of extended attributes. By using these characters, the user can add color attributes to the menus and comments.

The default special characters are defined in the UDCHATT macro. The *ASG-PreAlert IDMS/MVS System Guide* contains a description of the UDCHATT macro and the default special characters.

Special character assignments may be altered. The special characters for each user are saved in the user's PreAlert profile, saving the colors across PreAlert sessions.

The PreAlert screens, menus, and tutorials use the @ and # special characters. The user can include additional special characters.

The COLOR2 screen contains the line commands used to alter special character color attributes. The CHAT line command assigns display attributes to special characters for Menus and Comments.

Line Command	Description
CHAT	Assign special character attributes.
Keywords:	
CHA= <i>character</i>	Special character (i.e., #, @)
INT= <i>intensity</i>	For monochrome displays
COL= <i>color, highlight</i>	Color displays
CAN=Y	Remove special character
Valid Intensities:	LOW, HIGH
Valid Colors:	RED, BLUE, TURQ, YELLOW, WHITE, GREEN, PINK
Valid Highlights:	NORMAL, USCORE, REVERSE, BLINK

Example:

```
CHAT CHA=$,COL=GREEN,USCORE
+ CHA=$,INT=HIGH,COL=GREEN,USCORE
+ CHA=#,INT=HIGH,COL=WHITE,NORMAL
+ CHA=@,INT=LOW,COL=YELLOW,NORMAL
```

When PreAlert locates a dollar (\$) sign in a comment, the green and reverse attributes are started. The underscored text following the \$sign displays as green.

Example:

```
#White text@yellow text and $green underscored text.
```

Auto-repeat Option

PreAlert's Automatic Repeat Option is available on most of the major selection commands found throughout the MVS and IDMS sections of this user's guide. This option automatically repeats the line commands specified when the line separator ===== command is detected, thus displaying all jobs, tasks, etc., that are currently in the system, offering the user a broad scope of system activity. The default for the Automatic Repeat Option is taken from the userdata member and can be toggled ON/OFF using the .REP control command.

Toggle Freeze Frame

Entering either .Z or .FREEZE suspends updating of the screen displayed. This option allows in-depth analysis of data.

When Freeze Frame is active, the message `FREEZE FRAME ACTIVE` appears on the top line, upper right corner of the display screen. To determine which PreAlert line commands can be frozen, review the section references following ["PreAlert Freeze Frame Option" on page 27](#) below.

PreAlert Freeze Frame Option

PreAlert freezes data retrieval to enable further analysis of system activity. The .FREEZE and .Z control commands are used for this purpose. Associated line commands which can be specified for Freeze Frame are noted throughout this user's guide.

Where Freeze Frame Is Applicable

The following sections can be reviewed individually for the applicability of Freeze Frame:

- Active Task Data
- System Statistics and Histograms
- Journal Definitions
- All IDMS Exception Analysis
- Program/Reentrant Pool Statistics
- Program Definitions, Task Definitions, and Terminal Definitions when displayed with Active Tasks
- Run Unit Data
- Database Areas
- Buffer Displays
- Line Definitions
- Storage Pool Statistics

Where Freeze Frame Is Not Applicable

- Program, Task, Terminal Definitions when any selection parameters are used
- All Pool Maps
- Memory Display

Exit Tutorial Facility and Exit PreAlert

The .END control command is used to step up a level in the PreAlert Menu Option to end a PreAlert session, or to return to an original screen when viewing the online tutorials.

Stop All Sessions and Shutdown PreAlert

The .STOPV control command is used to stop the current user session(s) and shutdown PreAlert.

Immediate Termination of PreAlert

Entering the .STOP control command in the COMMAND input area immediately terminates the current PreAlert IDMS session.

MENU Support

PreAlert's Menu facilities are managed through use of the MENU line command. This command is used to specify a screen name and brief comment about the screen.

When a MENU item is displayed, the user can place the cursor anywhere on the MENU line and press Enter. PreAlert then displays the selected screen.

The MENU line command has the format:

```
MENU screen:comments
```

where:

screen is the member name of the screen.

: is a colon, required to separate the screen name from any comments.

comments is a brief description of the screen.

This description may include extended color and highlighting attributes. For further information on extended color, see ["Color Support" on page 24](#).

Figure 8 • Use of the MENU command

```
COMMAND:          MAINMENU      9:02:17.5   95.018   99.00% .TUT for Tutorial  
                  PreAlert Primary MENU  
.                  
.                  
.                  
MENU MVSMENU    :       PreAlert/MVS INTERFACE  
.                  
MENU IDMSMENU   :       PreAlert/IDMS INTERFACE  
.                  
MENU PAMENU     :       PreAlert FUNCTIONAL FACILITIES  
.                  
MENU SCREENS    :       DISPLAY THE SCREENS LIST  
.                  
.                  
.                  
.                  
.                  
Position the cursor on the desired MENU name, and press ENTER.  
.                  
.                  
.                  
.                  
SID SYSID=MVS1 CPU=9221/0D0709 MVS=SP4.3.0 PREALERT=V3.R7.0
```

As a screen is selected from Menu panels, the Menu name is added to the top of a stack. When the .END (PF3) command is entered, the Menu name at the top of the stack is removed and the corresponding screen displays.

When the Menu stack is active (containing one or more entries), it may display at the top of the screen on the Menus Active line:

Figure 9 • Menus Active line

```

COMMAND:          USERD1          9:04:44.3  95.018  60.00% .TUT for Tutorial
Menus Active:     MAINMENU  PAMENU

.   This screen displays the PreAlert USERDATA values being used for this
.   session.  Use the scroll down key (PF8) to display additional values.

UDPB UDPARMS --- USERDATA ASSEMBLED 11/02/94 09.41
+   USER AUTHORIZATION AND SECURITY
+       SECINT=Y  SECWAIT=Y  SECSAVE=Y  AUTHXIT=N  AUTOATH=Y
+       AMVS=(NONE)
+   MISCELLANEOUS OPTIONS
+       AREP=Y  PRTCLS=X  PRTDEST=R0  PRTHOLD=Y
+       HELPDSN=*.PREALERT.HELP
+       NOSAVE=N  MEMREP=N  UNIT=SYSDA  INT=(5,3,600)  SPFLPA=Y
+       COMDWTO=N  WTORTC=(11)  WTODSC=(7)
+       SCRNLIM=512  PLOTYEL=45  PLOTRED=75  MSRBTO=10  MENUHDR=Y
+       COPN=(BLUE,NORMAL)  COPH=(WHITE,NORMAL)
+       COUN=(GREEN,NORMAL)  COUH=(RED,NORMAL)
+       COIN=(RED,USCORE)
+       ASFID=  ASFFUN=EVENT.NOTIFICATION.MANAGER
+   STATISTICS LOGGING OPTIONS
+       MLOGSMF=0  MLOGDSP=***  MLOGBUF=204800  MLOGMEM=#MLOGOFF
+       MLOGDSN=*.SHOPMON.MLOG
+   IDMS INTERFACE OPTIONS
  
```

The user can skip back through several Menu screens simply by placing the cursor on the name of the desired Menu on the Menus Active line and pressing Enter. All menus lower on the stack than the one selected are removed from the stack. The selected menu displays.

To escape from the Menu control, the .ESC control command displays the highest menu and removes all other entries from the Menu stack. The same function may be performed by placing the cursor on the first Menus Active entry and pressing Enter.

.ESC Escape from Menu control and return to the highest level menu.

Use the .MENU control command to remove the Menus Active display line. The .MENU control command toggles the display of the Menus Active line. If the Menus Active line displays, then .MENU removes it. Entering .MENU again restores the Menus Active line.

.MENU Toggles the display of the Menus Active line at the top of the PreAlert display area.

Miscellaneous Features

Comment Lines

The line command adds comments to your screens. Special characters may be included to add color and highlighting attributes to the comments. See ["Color Support" on page 24](#).

System ID Line Command

The SID line command displays the System ID, CPU model, CPU serial number, MVS release level, and release level and date of PreAlert:

```
SID  SYSID=MVS1  CPU=3090/012344  MVS=SP4.2.2  PREALERT=V3.R5.0
```

PFKey Default Assignments

PreAlert has standard PFKey assignments to assist the user with various support functions. These assignments can be modified to meet each user's individual or installation requirements. PreAlert loads the user-specified defaults at execution time.

PFKey	Action	Description
1	.HELP	Screen fields help
13	.TUT	Enter tutorial
2/14	.DEL	Delete line command
3/15	.END	End PreAlert session
4/16	.PRT	Print current screen
5/17	.CHG	Change line commands
6/18	.SCROLL	Scroll to line # or cursor position
7/19	.UP	Scroll up
8/20	.DOWN	Scroll down
9/21	.INS	Insert line command
10/22	.LEFT	Shift left
11/23	.RIGHT	Shift right
12	.ESC	Menu escape
24	.STOP	Stop PreAlert session

The PreAlert PFKey definitions are not used since the ISPF Dialog Manager passes all PFKey activity as commands to the application. The ISPF KEYS command may be used to define PFKeys for PreAlert commands. By using the ISPF Menu Panels or the PASPF CLIST, ISPF will maintain a separate set of PF key definitions for PreAlert. Refer to "Installing PreAlert" in the *ASG-PreAlert IDMS/MVS System Guide* for more details on the PreAlert/TSO ISPF interface.

Define or Reset PFKey Definitions

Entering the .KEYS control command displays the PFkey assignments within PreAlert. This command is also used to modify the function of a PF key.

PreAlert commands can be stacked for a given PF key. When stacking commands, you must separate them with a semi-colon (;). To specify a screen name, set the Automatic Update to 10 seconds and activate the Screen Print option for the PF13 key by entering:

```
PF13 ACTVTASK;.INT10;.PRT
```

These are some of the PreAlert control commands that are mutually exclusive and cannot be stacked together:

.HELP	.TUT	.UP	.DOWN
.SCROLL	.STOP	.STOPV	.ESC

Online Quick Reference

The QREF line command provides an online Quick Reference Help facility similar to the *ASG-PreAlert Quick Reference* booklet. [Figure 10](#) displays the line commands selected either by an area of PreAlert or related to a specified line command.

Figure 10 • Quick Reference Help Facility

```

QREF
+   ENTER REF=CONTROL | MVS | IDMS | AUTH | Line Command
=====
QREF REF=IDMS
+   SELECT: ATID  BFFR  DBNM  JRNL  LINE  PRNM  RUID  TKCD  TRPT
+   DISPLAY: HSPL  IXAS  MMAP  PRPL  RCES  SSTK  STPL
=====
QREF REF=BFFR
+   CONTROL: BFSL
+   SELECT: BFFR
+   DISPLAY: BFBW  BFIO  BFIR  BFPG  BFRD  BFRF  BFRP  BFRQ  BFRR  BFSZ  BFUT
+           BFWR  BFXX
=====
QREF REF=BFFR,DSC=Y
+   CONTROL: BFSL  IDMS BUFFER - SELECTION PARMS
+   SELECT: BFFR  IDMS BUFFER - NAME
+   DISPLAY: BFBW  IDMS BUFFER - BUFFER WAITS
+           BFIO  IDMS BUFFER - TOTAL I/O COUNT
+           BFIR  IDMS BUFFER - CURRENT I/O RATE
+           BFPG  IDMS BUFFER - NUMBER OF PAGES MAX/IN-USE
+           BFRD  IDMS BUFFER - PHYSICAL READS
+           BFRF  IDMS BUFFER - READS FOUND IN BUFFER
+           BFRP  IDMS BUFFER - PERCENT READS FOUND IN BUFFER
+           BFRQ  IDMS BUFFER - TOTAL REQUESTS
+           BFRR  IDMS BUFFER - CURRENT REQUEST RATE

```

The display also indicates the type of line command:

Command Type	Function
CONTROL	Used to enter positional or keyword parameters for functional control of PreAlert, or to specify selection parameters.
SELECTION	Used to select specific elements for display. Typically these line commands will also display the name or ID of the element.
DISPLAY	Used to display specific information for the selected elements.

These keywords stand for specific line commands.

Keyword	Description
REF=MVS	PreAlert MVS line commands.
REF=IDMS	PreAlert line commands.
REF=CONTROL	Functional Control line commands.
REF=AUTH	Restricted Functions line commands.
REF= <i>line command</i>	Line commands related to the specified line command.
DSC=Y/ <u>N</u>	Request descriptions to be displayed in addition to the line commands.

SPY Feature

The SPY feature provides a convenient means of obtaining detailed statistics about an active task, run unit, buffer, or database area. To invoke the SPY feature, type .SPY, move the cursor to the desired item, and press Enter. PreAlert then calls a screen that is tailored to provide detailed information for the item, such as information concerning active tasks, run units, buffers, or database areas.

Usually the .SPY command is defined to a PF key. Thus, the SPY feature can be invoked by moving the cursor to the item and pressing the PF key.

To identify an item for SPY, the cursor may be placed by one of the following items:

- A data item displayed through a display line command, such as ATID, ATCD, ATPN, etc., for active task data
- A line of data from a horizontal display line command, such as ATHL, for active task data
- An active task, buffer, or database area exception message.

Figure 11 • Invoking the SPY feature

COMMAND: .SPY SAMPLE 12:48:50.1 93.222 97.87% .TUT FOR TUTORIAL									
IDMS	IDMSDC12	V120	IDMS	INTERFACE	ACTIVE	TASKS:	18	2.85/SEC	
+	***	TASK	20148	EMPQ07	CPU RATE = 13.55%	(T12)	***		
ATSSL TYP=UE									
ATID	20148	20336	20367	20362	20366				
ATCD	EMPQ07	ADS2	ADS2	MMFT010P	MMFT050				
ATPN	EMPI0711	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050				
ATEW		DBIO RD	DBIO RD	INTERVAL	DBIO RD				
ARRR	55.2	44.1	132.8	21.6	120.8				
ARIO	11.6	18.2	.0	2.7	24.1				
ARTC	13.55%	1.90%	.17%	.45%	.39%				
ATHL	1 1/4	TaskCD	Program	Wait	ECB	Reqs	I/O	CPU%	Lock Stg Waiting
+	20148	EMPQ07	EMPI0711			55.2	11.6	13.55%	4 90752
+	20336	ADS2	ADSOMAIN	DBIO RD		44.1	18.2	1.90%	7 62336
+	20367	ADS2	ADSOMAIN	DBIO RD		132.8	.0	.17%	0 33280
+	20362	MMFT010P	MMFA0012	INTERVAL		21.6	2.7	.45%	0 34240
+	20366	MMFT050	MMFA0050	DBIO RD		120.8	24.1	.39%	0 38784

In this sample screen, the SPY feature is invoked for active task ID 20148 through these steps:

- 1 Enter .SPY in the command input area (this step may be eliminated by using a PF key for .SPY).
- 2 Place the cursor in one of the following places on the screen:
 - The exception message for the task
 - Any data item displayed for the task by the ATID, ATCD, ATPN, etc. line commands
 - Anywhere on the line built by the ATHL line command for the task.
- 3 Press Enter or the PF key defined to the .SPY command.

PreAlert then displays the SPYIAT screen for IDMS active tasks as shown in [Figure 12](#):

Figure 12 • SPYIAT screen

```

COMMAND:          SPYIAT  12:48:54.5  93.222  95.00%  SPY SCREEN ACTIVE
IDMS IDMSDC12      V120  IDMS INTERFACE ACTIVE  TASKS:  18  2.85/SEC
+   *** TASK 20148 EMPQ07  CPU RATE = 13.55% (T12) ***
ATZZ ID:   20148  Code:EMPQ07  Status:  EXEC  Tran Tm:  2.49S
+ User:EMPTST1  Prog:EMPI0711  Wait:          Wait Tm:  2.08S  .0151S
+ Lterm:LTEUCF01 Dialog:      Waiting:      Syst CPU:  .41S  13.55%
+ RCE:  74  DPE:  2  Locks:  4  Pri: 64(100)  User CPU:
+ RLE:  40  ILE:  0  Total: 175  Stg:  90752  Tot CPU:  .41S  13.55%
+ DB Req:  138  55.2  Page Rq: 138  55.2  Calc-O:  0
+ Rec Req:  182  72.8  Page Rd:  29  11.6  Via-O:  0
+ Rec Cur:  116  46.4  Page Wr:  0  .0  O-flow%:
+ Req->Cur Ratio:  1.5  Page I/O:  29  11.6
+ IDXTASK TCD: EMPQ07  EXA: 12/*..

. To select another task for ATZZ, enter .SPY after COMMAND:
. place the cursor on the desired task, and press enter.
ATSL TYP=UE
ATHL  1/4 TaskCD  Program Wait ECB  Regs  I/O  CPU%  Lock  Stg Waiting
+   20148 EMPQ07  EMPI0711          55.2  11.6  13.55%  4  90752
+   20336 ADS2    ADSOMAIN DBIO RD  44.1  18.2  1.90%  7  62336
+   20367 ADS2    ADSOMAIN DBIO RD 132.8  .0  .17%  0  33280
+   20362 MMFT010P MMFA0012 INTERVAL 21.6  2.7  .45%  0  34240
+   20366 MMFT050 MMFA0050 DBIO RD 120.8  24.1  .39%  0  38784

```

To return to the original screen, press PF3 (.END command) or enter the return command, .RET. The original screen is then displayed.

SPY Commands

The SPY feature can be requested either with or without the Freeze Frame option. With the Freeze Frame option, the data collected by PreAlert for the IDMS CV is frozen; this data will not be updated as long as the Freeze Frame option is active. Refer to ["PreAlert Freeze Frame Option" on page 27](#) for additional details on the Freeze Frame option.

This table gives the available SPY commands:

Command	Description
.SPY	Request SPY feature without Freeze Frame option.
.SPYZ	Request SPY feature with Freeze Frame option. Freeze Frame option will be deactivated when the .RET command returns control to the original screen.

SPY Screens

The SPY feature displays one of five screen definitions, depending upon the type of data identified for SPY. Each of these screens is stored in the PreAlert HELP file and may be tailored by the user to display additional information.

The name of each screen is specified in the Userdata UDPARMS macro. The user may specify the names of other screens to override the default screens. Refer to the "UDPARMS Macro" section in the *ASG-PreAlert IDMS/MVS System Guide* for further information.

Each of the default SPY screens contains a line command to display the detailed statistics for the selected item. Refer to the following pages for a description of the line command for each listed data type:

Screen Name	Line Command	Page	Spy Data Type
SPYIAT	ATZZ	178	IDMS active task data
SPYIRU	RUZZ	201	IDMS run unit data
SPYIBF	BFZZ	268	IDMS buffer data
SPYIDB	DBZZ	230	IDMS database area data
SPYSLM	LMZZ	508	Local mode data

USERDATA Values

The USERDATA member in the PreAlert Control file specifies operational settings for PreAlert. In USERDATA, several macros are coded to specify the settings. The following line commands display each macro and its keyword settings.

Line Command	Macro	Function
UDPA	UDPARMS	Expanded control settings
UDPB	UDPARMS	Compressed control settings
UDAU	UDAUSER	Authorized user IDs
UDLC	UDLCX	Line command exclude list
UDCV	UDCVN	UMIDMS CV numbers and job names
UDIX	UDIDXL	Default IDMS exception level sets
UDPG	UDPGN	MVS performance group names

Line Command	Macro	Function
UDDM	UDDOM	MVS domain names
UDEX	UDEXAL	Default MVS exception level sets
UDCH	UDCHATT	Default special character attributes

The UDPG, UDDM, and UDEX line commands are applicable to PreAlert MVS users and are described in the *ASG-PREALERT MVS User's Guide*.

PreAlert USERDATA UDPARMS Macro

The USERDATA UDPARMS macro specifies the operational characteristics of PreAlert. These include user authorization and security, miscellaneous defaults, statistics logging options, PreAlert IDMS interface, PreAlert MVS interface, and VTAM and TSO interfaces. Refer to the *ASG-PreAlert IDMS/MVS System Guide* for a description of the UDPARMS macro and its keywords.

[Figure 13](#) shows the UDPA line command display the list of keyword settings in an expanded format. The expanded format includes a brief comment for each keyword setting. The display may extend past the physical size of the screen. Use the scrolling commands, .UP (PF7) or .DOWN (PF8), to view the entire display.

Figure 13 • UDPA line command—expanded format

UDPA	UDPARMS	---	USERDATA ASSEMBLED 06/01/93 14.11
+	USER AUTHORIZATION AND SECURITY		
+	SECINT=Y	UPDATE INTERVAL	SECURED
+	SECWAIT=Y	MVS WAIT ANALYSIS	SECURED
+	SECSAVE=Y	SCREEN SAVE	SECURED
+	AUTHXIT=N	ALL AUTH USERS IN	UDAUSER
+	AUTOATH=Y	AUTO .AUTHON FOR	AUTH USERS
+	AMVS=(NONE)	PREALERT.MVS	NOT SECURED
+	MISCELLANEOUS OPTIONS		
+	AREP=Y	AUTO-REPEAT	DEFAULT
+	PRTCLS=X	PRINT SYSOUT CLASS	DEFAULT
+	PRTDEST=R0	PRINT DESTINATION	DEFAULT
+	PRTHOLD=Y	PRINT HOLD ATTRIBUTE	DEFAULT
+	HELPDSN=*.PREALERT.HELP		
+	NOSAVE=N	SAVE OPTION	SUPPRESSED
+	MEMREP=N	.=X,R REQUIRED TO	REPLACE MEMBER
+	UNIT=SYSDA	DEFAULT UNIT FOR	DYNAMIC ALLOCATION
+	INT=(5, 3, 600)	AUTO-UPDATE INTERVAL	DEFAULTS
+	SPFLPA=N	ISPF MODULES	NOT IN LPA
+	COMDWTO=N	NO WTO MESSAGE FOR	COMD COMMANDS
+	WTORTC=(11)	WTO MESSAGE ROUTE	CODES
+	WTODSC=(7)	WTO MESSAGE DESCRIPTOR	CODES
+	SCRNLIM=512	MAX SCREEN NAMES FOR	SCRN

Figure 14 shows the UDPB line command display the list of UDPARMS keyword settings in a compressed format. The compressed format lists the keyword settings only:

Figure 14 • UDPB line command—compressed format

```

UDPB UDPARMS --- USERDATA ASSEMBLED 11/02/94 09.41
+   USER AUTHORIZATION AND SECURITY
+       SECINT=Y  SECWAIT=Y  SECSAVE=Y  AUTHXIT=N  AUTOATH=Y
+       AMVS=(NONE)
+   MISCELLANEOUS OPTIONS
+       AREP=Y  PRTCLS=X  PRTDEST=R0  PRTHOLD=Y
+       HELPDSN=*.PREALERT.HELP
+       NOSAVE=N  MEMREP=N  UNIT=SYSDA  INT=(5,3,600)  SPFLPA=Y
+       COMDWTO=N  WTORTC=(11)  WOTDSC=(7)
+       SCRNLIM=512  PLOTYEL=45  PLOTRED=75  MSRBTO=10  MENUHDR=Y
+       COPN=(BLUE,NORMAL)  COPH=(WHITE,NORMAL)
+       COUN=(GREEN,NORMAL)  COUH=(RED,NORMAL)
+       COIN=(RED,USCORE)
+       ASFID=  ASFFUN=EVENT.NOTIFICATION.MANAGER
+       CENDATE=N
+   STATISTICS LOGGING OPTIONS
+       MLOGSMF=0  MLOGDSP=***  MLOGBUF=204800  MLOGMEM=#MLOGOFF
+       MLOGDSN=*.SHOPMON.MLOG
+   IDMS INTERFACE OPTIONS
+       PIDMS=IDMS12G  IDMSMAX=4  IDMSRCE=S  ITIME=20
+       IJRNL=60  IJRNLF=N  DCLOG=N  IDMSSRB=Y  ITASKST=Y
+       IDXPFX=PAIDX  IDXDATE=Y  IADS2=ADS2  IUSMAX=128  IDMSJCT=64
+       ILOGINT=15  ILOGSYN=N  ILOGSTA=N  IABXBY=N  IERRSND=Y
+       SPYIAT=SPYIAT  SPYIRU=SPYIRU  SPYIDB=SPYIDB  SPYIBF=SPYIBF
+   SIRF-IDMS LOCAL MODE OPTIONS
+       SIRFLME=16  SPYSLM=SPYSLM

```

The section MVS Interface Options displays only if your PreAlert license includes the PreAlert MVS interface.

PreAlert USERDATA UDAUSER Macro

The USERDATA UDAUSER macro specifies any user IDs allowed to use the authorized features of PreAlert. This specification can only be made in one of these ways:

- By explicitly specifying the user ID in the UDAUSER macro
- By not specifying the user ID in the UDAUSER macro, but specifying AUTHXIT=Y in UDPARMS. PreAlert will call the security exit to determine whether the user ID is authorized.

The UDLCX LCX= keyword specifies the names of any line command exclude lists associated with the user ID. The UDLCX macro builds the line command exclude lists.

For each UDAUSER coded in USERDATA, the UDAU line command displays the user ID and any associated LCX line command exclude lists.

Figure 15 • UDAU line command

```
UDUA UDAUSER --- USERDATA ASSEMBLED 06/01/93 14.11
+   USERID1
+   USERID2
+   USERID3   LCX=(LCXMZAP)
+   USERID4   LCX=(LCXCOMD,LCXMZAP)

UDLC UDLCX --- USERDATA ASSEMBLED 06/01/93 14.11
+   LCXMZAP   LCX=(MZAP,KEY0)
+   LCXCOMD   LCX=(COMD,IVRY,ICMD)
```

Refer to the "Security Considerations" chapter in the *ASG-PreAlert IDMS/MVS System Guide* for additional information on the Line Command Exclude feature.

PreAlert USERDATA UDLCX Macro

The USERDATA UDLCX macro specifies line commands or functions to which a user will be denied access. In this macro, each LCX= keyword specifies an exclude list of one or more secured line commands or functions. The UDAUSER macros refer to these exclude lists to deny the specified user(s) access to particular secured line commands or functions.

For viewing each UDLCX macro coded in USERDATA, the UDLC line command displays the name of the list and the secured commands or functions.

Figure 16 • UDLC line command

```
UDAU UDAUSER --- USERDATA ASSEMBLED 06/01/93 14.11
+   USERID1
+   USERID2
+   USERID3   LCX=(LCXMZAP)
+   USERID4   LCX=(LCXCOMD,LCXMZAP)

UDLC UDLCX --- USERDATA ASSEMBLED 06/01/93 14.11
+   LCXMZAP   LCX=(MZAP,KEY0)
+   LCXCOMD   LCX=(COMD,IVRY,ICMD)
```

Refer to "Security Considerations" in the *ASG-PreAlert IDMS/MVS System Guide* for additional information on the Line Command Exclude feature.

PreAlert USERDATA UDCVNUM Macro

The USERDATA UDCVNUM macro associates a jobname with a specific CV number. For example, the user may specify .10 in the IDMS line command. PreAlert scans the UDCVNUM entries for the correct jobname for IDMS CV number 10.

For each UDCVNUM macro coded in USERDATA, the UDCV line command displays the IDMS CV number and its jobname.

Figure 17 • UDCV line command

```
UDCV UDCVNUM --- USERDATA ASSEMBLED 06/01/93 14.11
+          1, IDMSPRD1          2, IDMSPRD2          3, IDMSDEV3          4, IDMSDEV4
+          5, IDMSCV05          10, IDMSCV10
```

PreAlert USERDATA UDIDXL Macro

The USERDATA UDIDXL macro specifies the default exception analysis level sets for one or more IDMS CVs. When PreAlert begins to monitor an IDMS CV, the default exception analysis level set is loaded and used for exception analysis. If a default has not been specified, the level set must be loaded through the IXAS line command. Exception Analysis remains inactive until a level set has been loaded.

A user ID is specified with each UDIDXL macro. This method of user ID specification allows separate level sets to be specified for each user. In addition, a default user ID may be included for the user IDs not specifically coded.

For each UDIDL macro coded in USERDATA, the UDIX line command displays the user ID, and the list of IDMS jobnames and their default level sets.

Figure 18 • UDIX line command

```
UDIX UDIDL --- USERDATA ASSEMBLED 06/01/93 14.11
+   USERID1   IDMSPRD1,11   IDMSPRD2,12
+   USERID2   IDMSDEV3,13   IDMSDEV4,14
+   *         IDMSPRD1,01   IDMSPRD2,02   IDMSDEV3,03   IDMSDEV4,04
```

Refer to ["Exception Analysis" on page 333](#) for more information on exception analysis and exception level sets.

USERDATA UDCHATT Macro

The USERDATA UDCHATT macro defines the default special character attributes used in comment displays. These special characters allow the user to add color and highlighting to the comments.

For each UDCHATT macro coded in USERDATA, the UDCH line command displays the special character, and the attributes associated with it.

Figure 19 • UDCH line command

```
UDCH UDCH UDCHATT --- USERDATA ASSEMBLED 11/02/94 09.41
+ UDCHATT CHAR=#,INTENS=HIGH,COLOR=WHITE,USCORE
+ UDCHATT CHAR=@,INTENS=LOW,COLOR=YELLOW,NORMAL
```

Statistics Logging Feature

The Statistics Logging feature allows the user to record selected statistics from PreAlert. This section discusses where statistics will be logged.

Logging may be directed to either the SMF data user specified dataset or to the PreAlert MLOG datasets. The actual destination is dependent on the following:

- MLOG line command
- MLOGnn DDs in the PreAlert startup JCL
- MLOGFILE DD in the PreAlert startup JCL
- MLOGFILE Allocated in the PreAlert CLIST
- Defaults specified in the UDPARMS macro

For problems encountered during the logging, see ["Messages - IDMS Line Command" on page 521](#).

MLOG Line Command

The MLOG line command may be used to direct logging to either SMF or a specified dataset name. When the MLOG line command is used, it will override the log files allocated in the JCL or CLIST and the defaults from the UDPARMS macro.

The MLOG line commands direct logging only for the user who entered the command. Any other user who may be logged on to PreAlert will be unaffected.

Figure 20 • MLOG line command

```
MLOG DSN=*,PREALERT.MLOG
+   OPEN      DSN=USERID.PREALERT.MLOG

DSN DSN=USERID.PREALERT.MLOG
+ VOLSER CUA  RECFM LRECL BLKSZ  DSORG  CREDIT REFDT  EXT  TRKS  USED  2ND-ALC
+ USR001 1A6   VB    4092  4096   PS    87209 87209   1    1    0   50BLK
```

The MLOG line command is used to dynamically specify the SMF Record ID or the dataset name and attributes to be used for statistics logging. The following keywords are used in association with the MLOG line command:

Keyword	Description
SMF= <i>nnn</i>	SMF Record ID (must be greater than 127 and less than 256)
DSN= <i>data.set.name</i>	MLOG dataset name, an asterisk (*) in any position will be replaced with the user's user ID.
DISP=MOD | OLD | SHR	Specify the dataset status for existing datasets only. New datasets are allocated with DISP=MOD.
VOL= <i>volser</i>	Use only if a specific volser is required.
UNT= <i>unit</i>	Defaults to unit specifications in userdata.

Keyword	Description
BLK= <i>nnn</i>	Block size, must be 4096 or larger. Default is 4096.
SPC=B/T/C	Space allocation type: B=block, T=track, C=cylinder.
PSQ= <i>nnn</i>	Primary space quantity.
SSQ= <i>nnn</i>	Secondary space quantity.
RES=Y	Reset to default attributes.
SWT=Y	Switch MLOG <i>nn</i> datasets.

For MLOG messages issued when logging request problems occur, see ["Messages - IDMS Line Command" on page 521](#).

The SMF=*nnn* keyword directs logging to the SMF datasets and specifies the SMF record ID. Your systems programmer should have the necessary jobs to extract data from the SMF datasets. The statistics may then be printed using the MLOGPRT2 job described later in this section.

The DSN=*data.set.name* keyword directs logging to the specified dataset. If the dataset does not exist, PreAlert dynamically allocates the file using these attributes:

New Datasets	Description
DSN=	<i>data.set.name</i>
DISP=	(NEW,CATLG,CATLG)
DCB=	(RECFM=VB,LRECL=4092,BLKSIZE=4096)
DSORG=	PS
UNIT=	SYSDA
SPACE=	(4096,(500,200))

The defaults for the block size, unit, and space parameters may be overridden using keywords to the MLOG line command. The default unit may also be specified in the UDPARMS macro.

When DSN=*data.set.name* specifies an existing dataset, PreAlert will allocate the file with the attribute DISP=(MOD,KEEP,KEEP).

The default disposition may be overridden using keywords with the MLOG line command. Also the default may be specified in the UDPARMS macro.

If the dataset fills, all logging activity is saved in buffers until the user selects a new log dataset through the MLOG line command. When the buffers fill, all logging activity is suspended. When the new dataset is allocated, the old dataset is freed to allow for printing or archiving.

The dataset may be printed using the JCL in the MLOGPRT2 member of the PreAlert control file; or it can be archived to another file using the IEBGENER utility program.

MLOGnn DDs in the PreAlert Startup JCL

(For PreAlert multiple session users only.)

If neither SMF nor a dataset was specified through the MLOG line command, PreAlert will log statistics to the MLOGnn datasets specified in the startup JCL. The log datasets may be used to record statistics for any user signed on to PreAlert, but the datasets should not be shared across multiple PreAlert sessions.

Log datasets are specified in DD statements with DDnames MLOG1, MLOG2, through MLOG15. If these are used, at least two datasets should be used. Additional datasets are at the discretion of the user. Before PreAlert is started, the datasets must be initialized by the MLOGINIT job described in the "Initialize Statistics Logging" step of the "Installing PreAlert" chapter of the *ASG-PreAlert IDMS/MVS System Guide*.

PreAlert maintains a status code in the first record of each of the MLOGnn datasets. The AVAILABLE status indicates that the dataset is available for use.

- The OPEN status indicates that PreAlert is currently logging to this dataset.
- The CLOSED status indicates that the file is closed and contains data that should be offloaded.

The MLOGnn datasets provide the easiest means of continuous statistics logging. When a log dataset fills, PreAlert will automatically close the dataset, submit the MLOGOFFL log offload job and switch logging to the next available log dataset. The job will offload all closed datasets and reset their status to AVAILABLE. When more than one closed dataset is detected, the offload program will offload each dataset in the same sequence as it was opened. The offload job is also submitted during PreAlert startup processing when one or more closed log dataset is detected.

The log offload and log print jobs are also described in "Initialize Statistics Logging" in the "Installing PreAlert" chapter of the *ASG-PreAlert IDMS/MVS System Guide*.

To access data in the open log dataset before it fills, request that PreAlert switch log datasets. To switch log datasets, PreAlert will close the current log dataset, submit the offload job, and open the next log dataset. The user may request a switch by entering the MLOG line command with the SWT=Y keyword. Also, the computer operator may request a switch by entering the command:

```
F PREALERT, SWITCH
```

Although PreAlert attempts to offload the closed log datasets immediately, it is possible for all log datasets to be closed when PreAlert attempts to switch log datasets. When this occurs, PreAlert will retain the statistics to be logged in internal buffers until a log dataset becomes available. The size of the buffers is specified in the userdata UDPARMS macro. When these buffers are filled, PreAlert will ignore any additional requests for statistics logging.

MLOGFILE DD in the PreAlert Startup JCL

(For PreAlert Multiple Session Users only.)

The MLOGFILE DD may be used to specify a single log dataset to be used in place of the MLOG nn log datasets. The MLOGFILE DD should only be used when PreAlert is to be brought up (*only* for a short duration), to record a limited number of statistics. The MLOGFILE dataset does not require initialization (as the MLOG nn dataset), nor is the MLOGFILE dataset offloaded.

Before PreAlert is started, the MLOGFILE dataset must be allocated. This JCL, may be used:

```
//MLOGALLC   JOB    99, 'ALLOCATE MLOG'
//STEP1EXEC  PGM=IEFBR14
//MLOGFILE   DD    DSN=data.set.name,
//           DISP=(NEW,CATLG,DELETE),
//           DCB=(RECFM=VB,LRECL=4092,BLKSIZE=4096),
//           UNIT=sysda,SPACE=(4096,(500,200))
```

The *data.set.name*, *sysda*, and SPACE parameters should be specified as needed. The PreAlert startup JCL should include this statement:

```
//MLOGFILE   DD    DSN=data.set.name,DISP=OLD
```

The MLOGFILE dataset will be used to log statistics from all users signed onto PreAlert, unless otherwise directed by the MLOG line command.

If the MLOGFILE dataset fills, all logging activity is saved in buffers until the user selects a new log dataset through the MLOG line command. When the buffers fill, all logging activity is suspended until a new log dataset is allocated. PreAlert should be stopped as soon as possible to allow printing or archiving of the log dataset(s).

When PreAlert stops, print the MLOGFILE dataset using the JCL in the MLOGPRT2 member of the PreAlert control file or archive the dataset to another file using the IEBGENER utility program.

MLOGFILE Allocated in the PreAlert CLIST

(For PreAlert/Local TSO users only.)

The PreAlert/Local TSO user may add an ALLOC command to the PreAlert CLIST. If logging has not been directed elsewhere by the MLOG line command, PreAlert will log to the dataset specified in the ALLOC line command.

Before the PreAlert CLIST is executed, the MLOGFILE dataset must be allocated. This JCL may be used:

```
//MLOGALLC    JOB    99, 'ALLOCATE MLOG'
//STEP1EXEC   PGM=IEFBR14
//MLOGFILE    DD    DSN=data.set.name,
//              DISP=(NEW,CATLG,DELETE),
//              DCB=(RECFM=VB,LRECL=4092,BLKSIZE=4096),
//              UNIT=sysda,SPACE=(4096,(500,200))
```

The *data.set.name*, *sysda*, and SPACE parameters should be specified as needed.

The PreAlert CLIST includes this command:

```
ALLOC FI (MLOGFILE) DA ('data.set.name') OLD
```

The MLOGFILE dataset will be used to log statistics for only this PreAlert/LOCAL TSO user.

If the MLOGFILE dataset fills, the logging activity is saved in buffers until the user selects a new log dataset through the MLOG line command. When the buffers fill, all logging activity is suspended until a new log dataset is allocated.

When the new dataset is allocated, the old dataset is freed to allow for printing or archiving. The dataset may be printed using the JCL in the MLOGPRT2 member of the PreAlert control file.

Defaults in the UDPARMS Macro

The defaults specified in the userdata UDPARMS macro provide the last resort. If none of the prior options has been satisfied, PreAlert will simulate an MLOG line command using the UDPARMS defaults. The same procedures will be followed as in the MLOG line command option.

If the MLOGSMF keyword has been specified as zero (0) and the MLOGDSN keyword has not been specified, PreAlert will save all logging activity in buffers until a log dataset is allocated through the MLOG line command. When the buffers fill, PreAlert suspends logging.

Print MLOG Statistics

The PRNTMLOG job (PreAlert control dataset) may be used to extract and print records from the MLOG dataset. The first step executes the SHOPMXLG program to extract statistics records; the second step executes SHOPMPLG to print the statistics. Record extract is controlled through user supplied parameters.

The SHOPMXLG program will extract statistics records based on the selection criteria specified in the following extract parameters:

Date

DATE= {*date* | (*date1*,*date2*)} [,]

where:

date is a single date in Julian format (YYDDD).

(*date1*,*date2*) is a date range, inclusive of beginning and ending dates.

Example: DATE= (92002, 92006) , (92009, 92013)

Selects records from 1/2/92 through 1/6/92, and 1/9/92 through 1/13/92.

Time

TIME= (*time1*,*time2*) [,]

where (*time1*,*time2*) is a time range, inclusive of beginning and ending times (HHMM).

Example: TIME= (2200, 2359) , (0000, 0359)

Selects records from a 6 hour period beginning at 10:00 P.M.

DTTM

DTTM= (*date.time1*,*date.time2*) [,]

where (*date.time1*,*date.time2*) is a date-time range, inclusive of beginning and ending dates-times (YYDDD.HHMM).

Example: DTTM= (92009.0600, 92010.0559)

Selects records from a 24-hour period beginning at 6:00 A.M. on 1/9/92.

SYST

SYST= *system-id* [,]

where *system-id* is an SMF System ID. See the SID line command for the SMF System ID.

Example: SYST=SYS1, SYS1

Selects records for systems SYS1 and SYS2.

USER

USER= *userid* [,]

where *userid* is the user ID for the PreAlert session that created the MLOG statistics records.

Example: USER=USER1

Selects records from USER1.

TYPE

TYPE= {*type3*|4 (*type1*, *type2*) } [,]

where:

type is a number for a specific MLOG record type.

(*type1*, *type2*) is a range of numbers for MLOG record types, including the record types for the beginning and ending numbers.

Example: TYPE=1, (100, 103)

Selects record types 1 and 100 through 103.

CVID

CVID= *idms-cv-number* [,]

where *idms-cv-number* is a specific number identifying an IDMS CV number. Selects only IDMS record types (greater than 100).

Example: CVID=1000

Selects records for CV number 1000.

IDMS

IDMS= *IDMS jobname* [,]

where *IDMS jobname* is a specific IDMS jobname. Selects only IDMS record types (greater than 100).

Example: IDMS=IDMSDC1

Selects records for jobname IDMSDC1.

Note:

The extract parameter must begin in column one of the parameter record; only one may be specified on each parameter record.

Each parameter may be used on one or more records to specify up to eight occurrences of each parameter.

When a parameter has multiple values, OR logic is used (i.e., TYPE=1, 100 ... the record is selected if it is type 1 or 100).

When multiple parameters are specified, AND logic is used (i.e., DATE=92006 ... TIME=0800, 1759 ... The statistics record selected is written on 1/6/92 between 8:00 A.M. and 5:59 P.M.).

Print MLOG Statistics Using SAS

Three SAS programs and sample JCL have been included in the PreAlert control file. These programs will extract and print data from the PreAlert MLOG files as follows:

- SASMLOG prints the MLOG statistics records similar to the PRNTMLOG job described previously in this section.
- SASIDXM prints summary reports for PreAlert Exception Analysis.
- MLOGSAS contains sample JCL to execute these programs.

These SAS programs are intended only to demonstrate the potential uses of the MLOG statistics. Any further customization of the reports or archival of the data is left to the user.

The SASMLOG member is used to print the MLOG statistics records. It contains the SAS statements required to read the header section of the MLOG statistics records, followed by include statements for other members containing additional SAS statements. Each member prints a specific MLOG record type as listed below.

Member	Function
SASMLOG	Reads MLOG record header.
SASML1	Prints record type 1, PreAlert screen images.
SASML102	Prints record types 102 and 105, IDMS 10.2 System Statistics records, and Interval System Statistics records.
SASML103	Prints record type 103, IDMS 10.2 Active Task Statistics records.
SASML104	Prints record type 104, IDMS 10.2 and IDMS 12.0 Exception Message records.
SASML106	Prints record types 106 and 107, IDMS 10.2 Buffer Statistics records, and Interval Buffer Statistics records.
SASML108	Prints record types 108 and 109, IDMS 10.2 Database Statistics records, and Interval Database Statistics records.
SASML112	Prints record types 112 and 115, IDMS 12.0 System Statistics records, and Interval System Statistics records.
SASML113	Prints record type 113, IDMS 12.0 Active Task Statistics records.
SASML116	Prints record types 116 and 117, IDMS 12.0 Buffer Statistics records, and Interval Buffer Statistics records.
SASML118	Prints record types 118 and 119, IDMS 12.0 Database Statistics records, and Interval Database Statistics records.

The SASIDXM member is used to print a summary of the IDMS Exception Message records. It contains the SAS statements needed to read the IDMS Exception message records and to write them to an SAS data set. These are followed by an include statement for additional members to print the specific summary report, as listed below.

Member	Function
SASIDXM	Reads MLOG record type 104 and writes to SAS data sets based on the exception analysis area (System, task, database, or buffer). Only records with the same PreAlert user ID and MVS system ID in the PAUSER file will be used.
SASIDXM1	Summarizes exception messages by date, CV number and exception area, then prints the Daily IDMS CV Exception Summary report.
SASIDXM2	Summarizes exception message by CV number and exception object (task code, database name or buffer name) and then prints the Exception Object Summary report.
SASIDXM3	Summarizes exception messages by CV number and exception definition number, then prints the Exception Definition Summary report.

The MLOGSAS member in the PreAlert control file contains sample JCL used to execute SAS to print the MLOG Statistics. The JCL provided is a sample only. Consult your systems programming staff for the correct JCL.

Assuming the basic JCL is correct, these items may require attention:

- PROG=SASLPA symbolic specifies the name of the SAS load module to be executed. Consult your systems programmers.
- SASLIB='SYS1.SAS.LIBRARY' symbolic specifies the name of the SAS load module library. Consult your systems programmers.
- SASHELP='SYS1.SAS.SASHELP' symbolic specifies the name of the SAS Help data set. Consult your systems programmers.
- PREFIX='ASG.PREALERT' symbolic specifies the data set name prefix used to identify the PreAlert control data set. This is the same prefix used in the PreAlert installation.
- PAMEMB=SASMLOG symbolic specifies the member name in the PreAlert control file containing the SAS program to be executed.
- MLOGDSN='ASG.PREALERT.OFFLOAD' symbolic specifies the data set name for the MLOG statistics file. When the MLOG statistics have been written to the MLOG_{nn} DDs in the PreAlert startup JCL, the MLOG Offload job must be run to offload the statistics prior to using the SASJCL.
- PAUSER DD statement is used to specify the PreAlert user ID and MVS System ID for the SASIDXM program.

Restricted Functions

Many of PreAlert's functions are restricted to authorized users only. PreAlert users are allowed access to PreAlert's restricted functions through the userdata macros. See the "Userdata Macros" chapter in the *ASG-PreAlert IDMS/MVS System Guide* for more information on userdata macros and authorizing PreAlert user IDs.

Some functions, such as wait analysis and Auto-update mode, require only that the user be allowed authorization. All functions described on the following pages require PreAlert to be running in supervisor state, key zero. This is required to allow PreAlert to access data stored in protected areas and in other address spaces.

Entering either the .AUTHON control command, or the .ATH line command authorizes PreAlert to enter supervisor state and key zero. Authorization may be removed through either the .AUTHOFF control command or the .ATH line command. Authorization remains in effect for the duration of the session or until the user removes it.

Control Command	Line Command	Function
.AUTHON	.ATH ON	Allow authorization
.AUTHOFF	.ATH OFF	Remove authorization

Displaying Virtual Storage

PreAlert's DUMP line command allows viewing of all virtual storage addressable within your address space. This includes the NUCLEUS, COMMON areas (SQA & CSA), and your local private area.

Command	Function
DUMH	DUMP Header Line
DUML	Display current DUMP address space ID/jobname and address
DUMP	Display 16 bytes virtual storage in HEX and EBCDIC

Adjusting the DUMP Address

The ADDR line command specifies the virtual storage address to be displayed. All addresses are specified in HEX.

Command	Function
ADDR <i>hhhhhh</i>	Displays virtual storage beginning at address <i>hhhhhh</i> .
ADDR + <i>hhhhh</i>	Page forward <i>hhhhh</i> bytes.
ADDR - <i>hhhhh</i>	Page backward <i>hhhhh</i> bytes.
ADDR @	Display storage beginning at the location specified in the current address. (Indirect addressing).
ADDR / <i>mod name</i>	Display LPA module.
ADDR (<i>mod name</i>	Display LPDE entry for LPA module.

Viewing MVS Control Blocks

PreAlert's ADDR line command, followed by the control block name, provides viewing of many of the standard MVS control blocks.

Command	Function
ADDR *Control block name	Display the specified control block.

Displayable Control Blocks

The displayable control blocks are as follows:

ASCB _{nnn} *	ASMV	ASVT	ASXB _{nnn} *	CAT	CCT	CSD
CSTE	CVT	DMDT	GDA	ICT	LCCA	LCH

MCT	OUCB _{nnn} *	OUXB _{nnn} *	PART	PCCA	PCT	PGDT
PGVT	PVT	RCT	RMCA	RMCT	RMPT	
RSMH _{nnn}	SART	SDCT	UCB _{cuu} *	WMST		

where:

nnn is the ASID of desired address space.

cuu is the device address.

Figure 21 • Displayable control blocks

```

ADDR *ASCB19      <<==-- Locate the ASCB for address space 19.
DUMH  ADDRESS      +0.....3 +4.....7 +8.....B +C.....F  *--E B C D I C--*
DUMP  00F5C280 +000 C1E2C3C2 00F8AC00 00F54780 00000000  *ASCB 8  5  *
DUMP  00F5C290 +010 008FD310 0000142E 00000000 008F90E8  *  L  Y*
DUMP  00F5C2A0 +020 00000001 0013000D 000001DB 00000000  *  *
DUMP  00F5C2B0 +030 7FF154E8 00000000 00F4C710 00A66650  *"1 Y  4G W &*
DUMP  00F5C2C0 +040 00000001 71FC8200 9B573FEA 05EF2601  *  B  *
DUMP  00F5C2D0 +050 00000D69 808FDAD8 9B573F2C 00000000  *  Q  *
```

Cross Memory Storage Display

To display the private area storage of another address space, the CMDA line command is used to specify the ASID of that address space. CMDA retrieves the storage from the specified address space using Cross Memory Services features. The DUMP line command is then used to display the storage.

When CMDA is first entered for an address space, the ASXB is displayed. The ADDR line command can then be used to display different storage locations in the specified address space.

CMDA ([Figure 22](#)) can only be used to display storage of an address space that is swapped-in. Cross Memory Services does not support access to a swapped out address space. An error message displays if the address space is swapped out.

Figure 22 • CMDA line command

```
.ATH ON
JSEL SEL=U
JOBN *MASTER* PCAUTH   GRS      DUMPSRV  CONSOLE  ALLOCAS
ASID      1           2           3           4           5           6
CMDA 1
      *MASTER* SELECTED
DUMP 0000CA50 +000 C1E2E7C2 0000CB58 008E0AA8 000B0000 *ASXB      *
DUMP 0000CA60 +010 00000000 00000000 00000000 00000000 *          *
```

Scanning Virtual Storage

The MSCN line command ([Figure 23](#)) is used to scan virtual storage. Both the private area and system areas of any swapped in address space may be scanned. The search string may be specified either as a character string or as hex data.

Figure 23 • Scanning virtual storage

```

COMMAND:          DUMPSCAN   11:06:35.9  01.106  15.06% .TUT for Tutorial
.  Memory Scan - Enter:
.
.  Address Space:  JOB=jobname or ASI=asid
.  Search Data:   STR=character string or HEX=hex data
.  Location:      LOC=PRIVATE/LSQA/CSA/SQA/NUCLEUS/LPA
.  Alignment:     ALN=D/F/H/B

MSCN JOB=PACTEST,STR=SHOPMXMB,ALN=B
+      DATA: STR=SHOPMXMB
+      ADDRESS SPACE: JOB=PACTEST
+      LOCATION: LOC=PRIVATE
+      ALIGNMENT: ALN=B
+      FOUND AT: 0000FD4D

CMDA          ENTER ASID
ADDR
DURL DUMP ASID   127/PACTEST    ADDRESS:0000FD4D
DUMH  ADDRESS    +0.....3 +4.....7 +8.....B +C.....F  *---E B C D I C---*
DUMP  0000FD4D +000                                E2C8D6  *                               SHO*
DUMP  0000FD50 +003  D7D4E7D4 C26DF0F4 61F1F361 F0F16DF1 *PMXMB_04/13/01_1*
DUMP  0000FD60 +013  F84BF0F2 90ECD00C 18CF41B0 CFFF41B0 *8.02 *
DUMP  0000FD70 +023  B00158A0 100058F0 A898BF1F F4904770 *      0yq  4  *
DUMP  0000FD80 +033  C0744100 08000700 47F0C048 00000900 *          0  *
```

These keywords are used with MSCN:

Keyword	Description
STR=character string	Specify the search string.
HEX=hex data	Specify the search string in hex.
STR=string and HEX=hex keywords are mutually exclusive, only one may be specified.	
JOB=jobname	Specify the jobname of the address space to be searched.
ASI=asid	Specify the ASID of the address space to be searched.
JOB=jobname and ASI=asid keywords are mutually exclusive, only one may be specified. Either keyword is required when the private area or LSQA are being searched.	
The address space being searched must be swapped in. MSCN cannot scan a swapped out address space.	

Keyword	Description
LOC=location	Specify the storage location(s) to be searched, default is LOC=PRIVATE <ul style="list-style-type: none">• PRIVATE—Private areas• LSQA—Local System Queue areas• NUCLEUS—Nucleus storage• CSA—Common System areas• SQA—System Queue areas• LPA—Link Pack areas

LOC=PRIVATE or LOC=LSQA require the JOB=jobname or ASI=asid keywords to identify the address space being searched.

ALN=alignment	Specify the alignment for the search string, default is ALN=F (fullword) <ul style="list-style-type: none">• D—Doubleword• F—Fullword• H—Halfword• B—Byte
---------------	--

Alignment is used to specify the storage boundary where MSCN will look for the search string.

- ALN=D, MSCN will only check storage on doubleword boundaries, storage addresses ending in 0 and 8.
- ALN=F, only fullword boundaries, storage addresses ending in 0, 4, 8, or C.
- ALN=H, halfword boundaries, storage addresses ending in 0, 2, 4, 6, 8, A, C, E.
- ALN=B, all storage addresses are checked.

Modifying Memory

The MZAP line command uses Cross Memory Services to modify memory in any address space that is swapped-in. (Cross Memory Services does not allow access to swapped-out address spaces.) Keywords are used to specify the verify and/or replace values. Both the verify and replace functions are optional; a replace may be performed without a verify. If both verify and replace are requested, the replace function will be suppressed should the verify fail. The WERXSHPT SELECTED Screen, [Figure 24](#), represents results from verify and replace requests.

Figure 24 • WERXSHPT SELECTED screen

```
JSEL JNM=WERXSHPT
JOBN WERXSHPT
AISD      164
CMDA 164      WERXSHPT SELECTED
ADDR 6FF6
DURL DUMP ASID 164/WERXSHPT  ADDRESS:00006FF6
MZAP VER=0101,REP=0111
+  VER: ASID 164  ADDR 00006FF6  DATA 0101
+  REP: ASID 164  ADDR 00006FF6  DATA 0111
DUMH ADDRESS      +0.....3 +4.....7 +8.....B +C.....F  *---E B C D I C---*
DUMP 00006FF6 +000      0111 00000064 00000000  *
```

These keywords are used in association with the MZAP line command:

Keyword	Function
VER=hhhhhhhh	Specify verify value, 1 to 4 HEX bytes
REP=hhhhhhhh	Specify replace value, 1 to 4 HEX bytes, length must not be greater than the VER= length

Master Console Support

PreAlert allows authorized users to display an image of the Master Console, issue MVS commands, display retained messages, and delete retained messages.

Command	Function
MCON	Display a line of the Master Console
RPLY	Display any outstanding Operator Reply Elements
COMD	Provide a line for entry of MVS commands
MDRM	Display retained messages
MDOM	Delete retained messages

In [Figure 25](#), the last line on the CONSOLE screen display is for command input. Position the cursor at the COMD input line, type D T, and press Enter. After waiting two to three seconds, press Enter again.

The audit trail message will be displayed showing your user ID and the D T command that you just entered. (Indicated by the underlined text in [Figure 25](#).)

Figure 25 • Console screen display

```

COMMAND:_____ CONSOLE 22:47:00.8 93.060 45.68%
.ATH ON
MCON - JOB 9799 $HASP395 MFD040D ENDED
MCON $HASP309 INIT 2 INACTIVE ***** C=AI
MCON JOB 9907 IEC502E RK 582,OS0026,SL,PMCHA,S030S,PNT1.CUSTSAVE.S030S.SOR
MCON | JOB 9907 *IEC501A M 582,PRIVAT,SL,6250 BPI,PMCHA,S030S,
MCON | PNT1.CUSTSAVE.S030S.SORTOUT
MCON - JOB 9910 +IDMS DC201006 V1 T1 CV-STATUS PROGNAME SUBSCHEM --RU-TASK-
MCON - --LOCAL-IDENT-- PRI
MCON - JOB 9910 +IDMS DC201006 V1 T1 I ABORT MFB0018D PMF3SS07 61
MCON - BATC 207960582K
MCON 00 TSU 9921 IEE136I LOCAL: TIME=22.46.55 DATE=90.305 GMT: TIME=22.46.55
MCON DATE=90.305
MCON - TSU 9921 PREALERT USER: TREY ISSUED: D T
MCON JOB 9907 IEC705I TAPE ON 582,OS0029,SL,6250 BPI,PMCHA,S030S,
MCON PNT1.CUSTSAVE.S030S.SORTOUT
MCON IEE152I ENTER CANCEL D C,K
MCON IEE163I MODE= RD
=====
RPLY FFFB 20.51.27 JOB 9910 @56 REPLY WITH REQUEST TO IDMS V1
RPLY FFFB 01.55.58 JOB 9494 @74 REPLY WITH REQUEST TO IDMS V90
RPLY
=====
COMD

```

[Figure 26](#), shows the CONSRMQ screen used to display and delete retained messages.

The MDRM line command displays the message ID, message type, and time stamp, followed by the message text. Message type is displayed as I for Information messages, E for Eventual action messages, and C for Critical eventual action messages. Refer to the IBM manual *OS/390 V2R5 MVS Routing and Descriptor Codes* for more information on message types.

Use the MDOM line command to delete a retained message. Specify the message ID with the MSG=nnn keyword.

Figure 26 • CONSRMQ screen

```

COMMAND:          CONSRMQ    17:04:05.9  99.321  82.37% .TUT for Tutorial
.  MVS Master Console Retained Message Queue
MDRM      269  C  15.16.17 JOB02867 *PREALERT RETAINED MESSAGE TEST
+         264  C  15.12.09 JOB02856 @PDSALTER07-W ERROR: MEMBER TSTALTER AT:
+                               TCR.R43.DIST.ALL.COBOLII.LOADLIB DLIB<
+         250  C  08.19.39                               *ILR006E COMMON PAGE DATA SET FULL, OVERF
+                               LOWING TO PLPA DATA SET
+         249  I  05.20.14 STC02146 *DSNT405E -DB2M DSNTLIDE DISPATCH PRIORIT
+                               IES NOT IN SYNC: IRLM      : 0071 COMPARED TO DB2
+                               : 0071
.
.  Enter MSG=nnnnn (message id) to delete message
MDOM MSG=269
+  MESSAGE ID      269 DELETED

```

2

Menu Reference

This chapter discusses better utilization of the Master Menu facility within PreAlert. This chapter covers these topics:

IDMSMENU	67
MENU IDMSM1	68
MENU IDMSM2	90
MENU IDMSM3	105
MENU IDMSM4	119
MENU IDMSM5	124
MENU IDMSM6	129
MENU IDMSM7	141
SIRFLM	151
PAMENU	152

Here are a few tips on using the PreAlert Menu facility:

- Place the cursor on the menu name and press Enter to select menus.
- To exit the current menu screen, use the .END option, which is usually the PF3 key, or type .END in the COMMAND area and press Enter. This procedure can be repeated for each level of screen menu that is being viewed. To return to the Main Menu (or first level), type .ESC in the HEADER area and press Enter.
- Comments have been added to each menu to describe the contents, define an equation, and clarify a statistic. These comments can be removed as you become proficient with the PreAlert product.
- To modify the menus or the menu line commands, edit the member in the PreAlert help file. Not all menus will satisfy every data center; thus, flexibility has been provided for maintaining your own screen definitions.

[Figure 27](#) shows the PreAlert Primary Menu.

Figure 27 • PreAlert Primary Menu

```
COMMAND:          MAINMENU    14:25:05.5   93.060 110.14% .TUT FOR TUTORIAL
                  PreAlert Primary MENU
.
.
.
MENU MVSMENU      :      PREALERT/MVS INTERFACE
.
MENU IDMSMENU     :      PREALERT/IDMS INTERFACE
.
MENU PAMENU       :      PREALERT FUNCTIONAL FACILITIES
.
MENU SCREENS      :      DISPLAY THE SCREENS LIST
.
.
.
.
.
.
.
Position the cursor on the desired MENU name, and press ENTER.
.
.
.
SID SYSID=SYS1 CPU=3090/012345 MVS=SP3.1.0E PREALERT=V3.R4.0
```

All PreAlert menus and screens are contained as members in the PreAlert help file, using the menu name or screen name as the member name. ISPF edit may be used to edit the menu screens to add additional menu references or to delete any unwanted references.

Note:

The first menu option on the PreAlert Primary Menu is MENU MVSMENU, PREALERT/MVS INTERFACE. This is for PreAlert MVS installations only.

IDMSMENU

From the Primary Menu, select the PreAlert/IDMS Interface Primary Menu. The PreAlert/IDMS Interface Primary Menu resembles [Figure 28](#).

Figure 28 • PreAlert/IDMS Interface Primary Menu

```

COMMAND:          IDMSMENU   10:35:59.3  96.187  33.50% .TUT for Tutorial
.                  PreAlert / IDMS Interface
.                  Primary MENU
.
MENU IDMSM1   :    ACTIVE TASK & RUN UNIT MENU
.
MENU IDMSM2   :    IDMS-CV SYSTEM STATISTICS MENU
.
MENU IDMSM3   :    DATABASE / BUFFER / FILE / JOURNAL STATISTICS
MENU IDMSM4   :    TASK & PROGRAM DEFINITIONS
MENU IDMSM5   :    IDMS-DC LINE & TERMINAL DEFINITIONS
.
MENU IDMSM6   :    ADDITIONAL FEATURES MENU
MENU IDMSM7   :    IDMS EXCEPTION ANALYSIS MENU
.
MENU IDMSACTV :    IDMS SUMMARY DISPLAY
MENU SIRFLM   :    SIRF - IDMS LOCAL MODE JOBS
.
MENU PAMENU   :    PREALERT FUNCTIONAL FACILITIES
.
.    Position the cursor on the desired MENU name, and press Enter.
.
SID  SYSID=MVS1  CPU=9672/00156B  MVS=SP4.3.0   PREALERT=V4.R0.0
.

```

The PreAlert/IDMS Interface Primary Menu menu options are described and illustrated in the sections that follow.

MENU IDMSM1

Select the PreAlert/IDMS Interface Active Task & Run Unit Menu from the PreAlert/IDMS Interface Primary Menu. The PreAlert/IDMS Interface Task & Run Unit Menu resembles [Figure 29](#).

Figure 29 • PreAlert/IDMS Interface Task & Run Unit Menu

```

COMMAND:_____IDMSM1      11:47:43.4  93.299  96.31% .TUT FOR TUTORIAL
.
.      PreAlert / IDMS Interface
.      Active Task & Run Unit MENU
.
MENU ACTVTASK :      DISPLAY ALL ACTIVE TASKS
.
MENU ATSTAT1  :      GENERAL ACTIVE TASK STATISTICS
MENU ATSTAT2  :      DATABASE ACTIVITY STATISTICS
MENU ATSTAT3  :      ADS/O DIALOG STATISTICS
.
MENU ATPLOTS  :      ACTIVE TASK PLOTS
MENU ATHL     :      ACTIVE TASK, HORIZONTAL DISPLAY
.
MENU ATRU     :      ACTIVE TASK / RUN UNIT DISPLAY
MENU RUSTAT1  :      GENERAL RUN UNIT STATISTICS
MENU RUSTAT2  :      DATABASE ACTIVITY STATISTICS
MENU RUSTAT3  :      BATCH EXTERNAL RUN UNIT INFORMATION
MENU RUHL     :      RUN UNIT, HORIZONTAL DISPLAY
.
MENU ATPR     :      ACTIVE TASK / PROGRAM DEFINITIONS
MENU ATTK     :      ACTIVE TASK / TASK DEFINITIONS
MENU ATTR     :      ACTIVE TASK / TERMINAL DEFINITIONS
.
.      Position the cursor on the desired MENU name, and press ENTER.

```

Menu references may be added or deleted by editing the MENU IDMSM1 member of the PreAlert help file. The text that follows describes and illustrates the menu options available through the PreAlert/IDMS Interface Active Task & Run Unit Menu.

ACTVTASK

Select the ACTVTASK screen is selected from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). This option, shown in [Figure 30](#), identifies the online and external tasks currently active in the IDMS-CV being monitored.

Figure 30 • ACTVTASK screen

COMMAND: _____ ACTVTASK 8:40:03.7 93.060 97.42% .TUT FOR TUTORIAL							
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS:	24 7.33/SEC
=====							
ATSL TYP=UE							
ATID	20336	20367	20362	20366	20358	20359	20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
ADLG	GNMDU230	GANDI140			GANDI100	AAPDI020	GANDI105
ATPT	TRPTE003	DCPTE062	TRPTE020	DCPTE007	DCPTE056	DCPTE063	DCPTE067
ATUI	CXZVNGC	DJB3754	DMGVSTE	LASKCNI	LLC1752	CPJ2294	ACW2861
=====							

These line commands are used with screen ACTVTASK:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Task ID
ATCD	Task Code
ATPN	Program Name
ADLG	Dialog Name
ATPT	P-term ID
ATUI	User ID
=====	Line Separator / Auto-repeat

The ATSL line command includes the TYP=UE selection keyword to select user (online) and external tasks only. This may be changed to TYP=UES to include system tasks in the display. Additional selection keywords are described in ["Active Task Selection" on page 165](#).

ATSTAT1

Select the ATSTAT1 screen from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). General task statistics for online (user) and external active tasks are displayed. The ATSTAT1 screen resembles [Figure 31](#).

Figure 31 • ATSTAT1 screen

COMMAND: _____ ATSTAT1 8:40:19.8 93.060 85.42% .TUT FOR TUTORIAL								
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS:	24	7.33/SEC
ATSL TYP=UE								
ATID	20336	20367	20362	20366	20358	20359	20360	
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2	
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN	
ATLT	TRLTE003	DCLTE062	TRLTE020	DCLTE007	DCLTE056	DCLTE063	DCLTE067	
ATUI	CXZVNGC	DJB3754	DMGVSTE	LASKCNI	LLC1752	CPJ2294	ACW2861	
ADLG	GNMDU230	GANDI140			GANDI100	AAPDI020	GANDI105	
ATST	WAIT	WAIT	WAIT	WAIT	EXEC	WAIT	WAIT	
ATWT								
ATEW	DBIO RD	DBIO RD	INTERVAL	DBIO RD		DBIO RD	DBIO WR	
ATSO	62336	33280	34240	38784	29568	26304	29568	
ATTW	2.26S	.04S	1.77S	.27S	2.24S	2.20S	2.25S	
ATTS	.06S	.00S	.01S	.01S	.04S	.06S	.02S	
ATTU	.01S	.00S	.00S	.00S	.02S	.04S	.01S	
ATTT	2.35S	.05S	1.79S	.28S	2.31S	2.31S	2.29S	
ATLK	7/192	0/ 0	0/ 0	0/ 2	0/ 19	5/111	0/ 0	
ATDB	104	7	39	35	96	151	55	
ATRR	312	1	32	28	98	178	55	
=====								

These line commands are used with screen ATSTAT1:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Task Program Name
ATLT	L-term ID
ATUI	User ID

Line Commands	Description
ADLG	ADS Dialog Name
ATST	Active Task Status
ATWT	Current Waiting Time
ATEW	ECB Wait Code
ATSO	Storage Owned by Task
ATTW	Total Task Wait Time
ATTS	Total System Mode CPU Time
ATTU	Total User Mode CPU Time
ATTT	Total Task Transaction Time
ATDB	Database Calls
ATTR	Records Requested
====	Line Separator / Auto-repeat

For additional Active Task line commands, refer to ["Active Task Display Line Commands" on page 168](#).

ATSTAT2

Select the ATSTAT2 screen, shown in [Figure 32](#), from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). Database activity statistics for online (user) and external active tasks displays.

Figure 32 • ATSTAT2 screen

COMMAND:	ATSTAT2	8:40:30.1	93.060	97.10%	.TUT FOR TUTORIAL		
IDMS	IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS:	24	7.33/SEC	
ATSL	TYP=UE						
ATID	20336	20367	20362	20366	20358	20359	20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
ADLG	GNMDU230	GANDI140			GANDI100	AAPDI020	GANDI105
ATSV	128	12	52	46	236	194	130
ATDB	104	7	39	35	96	151	55
.	RECORD REQUEST STATISTICS						
ATRR	312	1	32	28	98	178	55
ATRU	48	0	13	15	57	144	32
ATRC	6.50		2.46	1.86	1.71	1.23	1.71
.	VIA/CALC RECORD STATISTICS						
ATCN	0	0	0	0	0	0	0
ATCO	0	0	0	0	0	0	0
ATVN	0	0	0	0	0	0	0
ATVO	0	0	0	0	0	0	0
.	PAGE I/O STATISTICS						
ATPQ	312	1	19	23	78	178	45
ATPR	43	0	5	7	30	15	18
ATPW	0	0	0	0	7	0	2
=====							

These line commands are used with screen ATSTAT2:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
ADLG	ADS Dialog Name
ATSV	Total IDMS Service Requests
ATDB	Total Database Requests
ATRR	Total Records Requested
ATRU	Records Current of Run Unit

Line Commands	Description
ATRC	Record Requested to Current Ratio
ATCN	CALC Records stored without Overflow
ATCO	CALC Records stored with Overflow
ATVN	VIA Records stored without Overflow
ATVO	VIA Records stored with Overflow
ATPQ	Total Pages Requested
ATPR	Total Pages Read
ATPW	Total Pages Written
====	Line Separator / Auto-repeat

For additional Active Task line commands, refer to ["Active Task Data" on page 165](#).

ATSTAT3

Select the ATSTAT3 screen, shown in [Figure 33](#), from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). The ATSTAT3 screen displays ADS Dialog statistics for online active tasks.

Figure 33 • ATSTAT3 screen

COMMAND:	ATSTAT3	8:40:39.3	93.060	100.45%	.TUT	FOR TUTORIAL
IDMS IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS:	24	7.33/SEC
ATSL	TYP=UE					
ATID	20336	20367	20362	20366	20358	20359
						20360
.	DIALOG	STATISTICS				
ADLG	GNMDU230	GANDI140			GANDI100	AAPDI020
						GANDI105
ADLL	1	1			1	1
ADCD	0	0			5	0
ADGD	104	7			96	151
ADND	0	0			2	0
ADRB	5/ 1	5/ 1			5/ 1	5/ 1
ADPE	0/ 0	0/ 0			0/ 0	0/ 0
ADSD	13	1			8	21
ADSG	23	12			17	52
ADSP	7	0			6	17
=====						

These line commands are used with screen ATSTAT3:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ADLG	ADS Dialog Name
ADLL	Current Link Level
ADCD	Put Current Detail Commands
ADGD	Get Detail Commands
ADND	Put New Detail Commands
ADRB	High/Low Record Blocks Used
ADPE	Premap/Response Process executions
ADSD	Scratch Delete Commands
ADSG	Scratch Get Commands
ADSP	Scratch Put Commands
====	Line Separator / Auto-repeat

For additional Active Task Dialog line commands, refer to ["ADS/O Dialog Display Line Commands" on page 173](#).

Figure 34 • ATPLOTS screen

COMMAND:		ATPLOTS		8:40:50.7	93.060	98.97%	.TUT FOR TUTORIAL		
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS:	24	7.33/SEC	
ATSL TYP=UE									
ATID	20336	20367	20362	20366	20358	20359	20360		
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2		
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN		
ATXT	GNMDU230	GANDI140	MMFT010P	MMFT050	GANDI100	AAPDI020	GANDI105		
ATTT	2.35S	.05S	1.79S	.28S	2.31S	2.31S	2.29S		
ARTC	1.90%	.17%	.45%	.39%	1.68%	2.42%	1.02%		
ARIO	18.26	.00	2.77	24.17	12.93	6.47	7.83		
ARDB	44.16	132.82	21.66	120.85	41.39	65.13	23.92		
ATPL FLD=ARTC									
+	TASK ID	IDX	TCD	CPU RATE	...	10...	20...	30...	40...
+	20336	GNMDU230		1.90%	*	...	...	...	...
+	20367	GANDI140		.17%	...	...	...	...	...
+	20362	MMFT010P		.45%	...	...	...	...	...
+	20366	MMFT050		.39%	...	...	...	...	...
+	20358	GANDI100		1.68%	*	...	...	...	...
+	20359	AAPDI020		2.42%	*	...	...	...	...
+	20360	GANDI105		1.02%	*	...	...	...	...

These line commands are used with the ATPLOTS screen:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
ATXT	IDX Task Code (TCD)
ATTT	Total Task Transaction Time
ARTC	Total CPU Usage rate

Line Commands	Description
ARIO	I/O rate
ARDB	Database Request Rate
ATPL	Active Task Statistics Plots

The ATPL line command plotted the CPU rate for each Active Task displayed in the ATID line command. The FLD=ARIO or FLD=ARDB keywords may be used with ATPL to plot the I/O rate or database request rate for the selected active tasks.

For a description of the ATPL line command and its keywords, refer to ["Active Task Plots" on page 182](#).

ATHL

Select the ATHL screen, shown in [Figure 35](#), from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). The ATHL screen displays Active task statistics in a horizontal format using the ATHL line command.

Figure 35 • ATHL screen

```
COMMAND:_____ATHL      11:48:12.7  93.299  97.62% .TUT FOR TUTORIAL
.  IDMS Active Task Data, horizontal display

IDMS IDMSDC12      V120      IDMS INTERFACE ACTIVE      TASKS:  14      .00/SEC

.  Use ATSL selection parms to select active tasks for display.
ATSL TYP=UE

.  Specify 1, 2, 3, or 4 for the ATHL display format number.
ATHL 1 1/4 TaskCD  Program Wait ECB  Reqs  I/O  CPU%  Lock      Stg Waiting
+   20336 ADS2      ADSOMAIN DBIO RD   44.1  18.2  1.90%   7    62336
+   20367 ADS2      ADSOMAIN DBIO RD  132.8    .0   .17%   0    33280
+   20362 MMFT010P  MMFA0012 INTERVAL  21.6   2.7   .45%   0    34240
+   20366 MMFT050   MMFA0050 DBIO RD  120.8  24.1   .39%   0    38784
+   20358 ADS2      ADSOMAIN          41.3  12.9  1.68%   0    29568
+   20359 ADS2      ADSOMAIN DBIO RD   65.1   6.4  2.42%   5    26304
+   20360 ADS2      ADSOMAIN DBIO WR   23.9   7.8  1.02%   0    29568

ATPL FLD=ARTC
+ TASK ID  IDX TCD CPU RATE  ...10...20...30...40...50...60...70...80...90..100
+   20336 GNMDU230   1.90%  *...|...|...|...|...|...|...|...|...|...|...|
+   20367 GANDI140   .17%   ...|...|...|...|...|...|...|...|...|...|...|
+   20362 MMFT010P   .45%   ...|...|...|...|...|...|...|...|...|...|...|
+   20366 MMFT050    .39%   ...|...|...|...|...|...|...|...|...|...|...|
+   20358 GANDI100   1.68%  *...|...|...|...|...|...|...|...|...|...|...|
+   20359 AAPDI020   2.42%  *...|...|...|...|...|...|...|...|...|...|...|
```

These line commands are used with the ATHL screen:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATHL	Active Task data, horizontal format
ATPL	Active Task Statistic plots

The ATHL line command displays four different formats. Refer to ["Active Task Horizontal Display" on page 174](#) for further information on the ATHL line command.

ATRU

Select the ATRU screen, shown in [Figure 36](#), from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). The ATRU screen identifies online and external active tasks and their run units.

Figure 36 • ATRU screen

COMMAND:	ATRU	8:41:17.3	93.060	87.02%	.TUT FOR TUTORIAL
IDMS	IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS: 24 7.33/SEC
ATSL	TYP=UE				
ATID	20336	20367	20362	20366	20358 20359 20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2 ADS2 ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN ADSOMAIN ADSOMAIN
ADLG	GNMDU230	GANDI140			GANDI100 AAPDI020 GANDI105
ATEW	DBIO RD	DBIO RD	INTERVAL	DBIO RD	DBIO RD DBIO WR
ATST	WAIT	WAIT	WAIT	WAIT	EXEC WAIT WAIT
ATTT	2.35S	.05S	1.79S	.28S	2.31S 2.31S 2.29S
.	RELATED RUN UNIT DATA BASE ACTIVITY				
RUSL					
RUID	0010DB95	0010DBBF	0010DBB6	0010DBBE	0010DBB2 0010DBB3
RUTI	20336	20367	20362	20366	20359 20360
RUPN	GNMDU230	GANDI140	MMFA0010	MMFA0050	AAPDI020 GANDI105
RUAN	NOMVOLUM	GANRQST-	MMF-SYST	MMF-SYST	INVOICE- GANRQST-
+	-AREA	AREA	EM-AREA	EM-AREA	AREA AREA
RURN	PRTYVOL	FOPRQST	MMF-SYST	MMF-TASK	INVCDTL MTRRQST
+			EM		
RUSS	GNMSU500	GANSI400	MMFSUB01	MMFSUB01	AAPSI070 GANSI100
RUSN	SCHMGAS	SCHMGAS	MMFSCHM	MMFSCHM	SCHMIMP SCHMGAS
RUVB	33FIND U	07FIND C	34	GET 31FIND O	10FIND N 31FIND O
RUST	I H 0300	I A 0300	A 0000	I A 0300	I H 0300 I A 0300
====	=====				

These line commands are used with the ATRU screen:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Task Program Name
ADLG	ADS Dialog Name
ATEW	ECB Wait Code
ATST	Active Task Status
ATTT	Total Task Transaction Time
RUSL	Run Unit Selection Keywords
RUID	Run Unit ID (hex)
RUTI	Active Task ID
RUPN	Program Name
RUAN	Area Name
RURN	Record Name
RUSS	Subschema Name
RUSN	Schema Name
RUVB	Verb Number and Description
RUST	Run Unit Status, Error Status
=====	Line Separator / Auto-repeat

By default, Run Unit data is displayed to match the active tasks. The active task and its run unit are displayed in the same columns.

Run unit data may be displayed independently of the active task data by specifying run unit selection keywords with the RUSL line command. See ["Run Unit Data" on page 191](#) for further information.

RUSTAT1

Select the RUSTAT1 screen, shown in [Figure 37](#), from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). RUSTAT1 displays the database activity for all online and external run units.

Figure 37 • RUSTAT1 screen

```

COMMAND:_____ RUSTAT1      8:41:28.4  93.060  97.20% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE   TASKS:  24   7.33/SEC
RUSL TYP=UE
RUID 0010DB95 0010DBB2 0010DBB3 0010DBB6 0010DBBE 0010DBBF
RUIN 1104789 1104818 1104819 1104822 1104830 1104831
RUTI 20336 20359 20360 20362 20366 20367
RUTP DBDC DBDC DBDC DBDC DBDC DBDC
RUST I H 0300 I H 0300 I A 0300 A 0000 I A 0300 I A 0300
RUPN GNMDU230 AAPDI020 GANDI105 MMFA0010 MMFA0050 GANDI140
. Run Unit Database Activity
RUSN SCHMGAS SCHMIMP SCHMGAS MMFSCHM MMFSCHM SCHMGAS
RUSS GNMSU500 AAPSI070 GANSI100 MMFSUB01 MMFSUB01 GANSI400
RUDM DMCAS DMCIMP DMCAS MMFDMCL MMFDMCL DMCAS
RUAN NOMVOLUM INVOICE- GANRQST- MMF-SYST MMF-SYST GANRQST-
+ -AREA AREA AREA EM-AREA EM-AREA AREA
RURN PRYVOL INVCDTL MTRRQST MMF-SYST MMF-TASK FOPRQST
+ EM
RUFN GASTE IMPINVC3 GANRQST MMFILE1 MMFILE1 GANRQST
RUVS DBAX80 DB1X89 DB1X8I DBAX80 DBAX80 DB1X8I
RUKP 6169433 1214306 6856537 2607910 2608984 6825607
RUKL 1 27 4 1 1 10
RUKO
RUVB 33FIND U 10FIND N 31FIND O 34 GET 31FIND O 07FIND C
RUVF PRYVOL INVCDTL MTRRQST- MMF-SYST TASK-USE FOPRQST
+ MTRCPND EM RTASK
+ 2.CONMSTR- APGLACT- VERB# 43 VERB# 43 VERB# 43

```

These line commands are used with the RUSTAT1 screen:

Line Commands	Description
IDMS	PreAlert Interface
RUSL	Run Unit Selection Keywords
RUID	Run Unit ID (hex)
RUIN	Run Unit ID (decimal)
RUTI	Active Task ID
RUTP	Task Type
RUST	Run Unit Status, Error Status
RUPN	Program Name
RUSN	Schema Name

Line Commands	Description
RUSS	Subschema Name
RUDM	DMCL Name
RUAN	Area Name
RURN	Record Name
RUFN	File Name
RUVS	File VOLSER
RUKP	Database Key Page Number
RUKL	Database Key Line Number
RUKO	Database Key Owner, for DB key waits
RUVB	Verb Number and Description
RUVP	Verb Params
=====	Line Separator / Auto-repeat

RUSTAT2

Select the RUSTAT2 screen, shown in [Figure 38](#), from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). Run unit lock and database activity statistics for all online and external run units are displayed.

Figure 38 • RUSTAT2 screen

COMMAND:	_____	RUSTAT2	8:41:37.9	93.060	92.30%	.TUT FOR TUTORIAL
IDMS	IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS: 24	7.33/SEC
RUSL	TYP=UE					
RUID	0010DB95	0010DBB2	0010DBB3	0010DBB6	0010DBBE	0010DBBF
RUTI	20336	20359	20360	20362	20366	20367
RUPN	GNMDU230	AAPDI020	GANDI105	MMFA0010	MMFA0050	GANDI140
.	Run Unit Lock Statistics					
RULT	7	5	0	0	0	0
RULC	196	112	0	0	0	0
.	Run Unit Database Statistics					
RUID	104	151	55	9	31	7
RURR	312	178	55	2	24	1
RURC	48	144	32	1	15	0
RUCN	0	0	0	0	0	0
RUCO	0	0	0	0	0	0
RUVN	0	0	0	0	0	0
RUVO	0	0	0	0	0	0
RUPQ	312	178	45	1	19	1
RUPR	43	15	18	0	7	0
RUPW	0	0	0	0	0	0
=====						

These line commands are used with the RUSTAT2 screen:

Line Commands	Description
IDMS	PreAlert Interface
RUSL	Run Unit Selection Keywords
RUID	Run Unit ID (hex)
RUTI	Active Task ID
RUPN	Program Name
RULT	Total Locks Currently Held
RULC	Total Lock Requests
RUDB	Database Requests
RURR	Record Requests
RURC	Records Current of Run Unit
RUCN	CALC Records stored without Overflow
RUCO	CALC Records stored with Overflow
RUVN	VIA Records stored without Overflow
RUVO	VIA Records stored with Overflow
RUPQ	Pages Requested
RUPR	Pages Read
RUPW	Pages Written
====	Line Separator / Auto-repeat

RUSTAT3

Select the RUSTAT3 screen, shown in [Figure 39](#), from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). RUSTAT3 displays external run units and batch job information.

Figure 39 • RUSTAT3 screen

```

COMMAND:_____ RUSTAT3   8:42:44.1  93.060  95.46% .TUT FOR TUTORIAL
IDMS IDMSDC2      V2      IDMS INTERFACE ACTIVE   TASKS:  19   .37/SEC
RUSL TYP=E
RUID 00006981
RUTI      3486
RUPN GMBCU110
.      External Run Unit Information
RULI BATC
+      6:41:03
RUJB TGMB100U
RUJC      B
RUJN JOB01614
=====

```

These line commands are used with the RUSTAT3 screen:

Line Commands	Description
IDMS	PreAlert Interface
RUSL	Run Unit Selection Keywords
RUID	Run Unit ID (hex)
RUTI	Active Task ID
RUPN	Program Name
RULI	Run Unit Local ID
RUJB	Batch Jobname
RUJC	Batch Job Class
RUJN	Batch Job Number
=====	Line Separator / Auto-repeat

RUHL

Select the RUHL screen, shown in [Figure 40](#), from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). Run Unit statistics display in a horizontal format using the RUHL line command.

Figure 40 • RUHL screen

```

COMMAND:_____RUHL      11:55:35.0  93.299  93.00% .TUT for Tutorial
.  IDMS Run Unit, horizontal display

IDMSDC12      V120  IDMS INTERFACE ACTIVE  TASKS:  14      .00/SEC

.  Use RUSL selection parms to select run units for display.
RUSL TYP=UE

.  Specify 1, 2, or 3 for the RUHL display format number.
RUHL  1 1/3  RU ID Program  S.Schema Verb      Status  Rec N C      Locks
+          95468  GMBCU110  GMSU100 33FIND U I H 0300      11      21
+          1104789  GNMDU230  GNMSU500 33FIND U I H 0300       4       7
+          1104818  AAPDI020  AAPSI070 10FIND N I H 0300       3       5
+          1104819  GANDI105  GANSI100 31FIND O I A 0300       0       0
+          1104822  MMFA0010  MMFSUB01 34   GET   A 0000       0       0
+          1104830  MMFA0050  MMFSUB01 31FIND O I A 0300       0       0
+          1104831  GANDI140  GANSI400 07FIND C I A 0300       0       0

```

These line commands are used with the RUHL screen.

Line Commands	Description
IDMS	PreAlert Interface
RUSL	Run Unit Selection Keywords
RUHL	Run Unit data, horizontal format

The RUHL line command displays three different formats. Refer to ["Run Unit Horizontal Display" on page 197](#) for further information on the RUHL line command.

ATPR

Select the ATPR screen, shown in [Figure 41](#), from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). Online and external active tasks and related program definitions display.

Figure 41 • ATPR screen

COMMAND:	ATPR	8:42:04.1	93.060	97.20%	.TUT FOR TUTORIAL
IDMS	IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS: 24 7.33/SEC
ATSL	TYP=UE				
ATID	20336	20367	20362	20366	20358 20359 20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2 ADS2 ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN ADSOMAIN ADSOMAIN
ADLG	GNMDU230	GANDI140			GANDI100 AAPDI020 GANDI105
.	RELATED PROGRAM DEFINITIONS				
PRSL					
PRNM	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN ADSOMAIN ADSOMAIN
PRVR	1	1	1	1	1 1 1
PRSC	0	0	0	0	0 0 0
PRSZ	101936	101936	848	5240	101936 101936 101936
PRTP	ASMBLER	ASMBLER	ASMBLER	ASMBLER	ASMBLER ASMBLER ASMBLER
PRRE	TRUE-RNT	TRUE-RNT	TRUE-RNT	TRUE-RNT	TRUE-RNT TRUE-RNT TRUE-RNT
PRSP	NO PROT	NO PROT	NO PROT	NO PROT	NO PROT NO PROT NO PROT
PRST	ENABLED	ENABLED	ENABLED	ENABLED	ENABLED ENABLED ENABLED
PRRS	PERM-RES	PERM-RES	LOADED	LOADED	PERM-RES PERM-RES PERM-RES
PRCU	5	5	1	1	5 5 5
PRSW					
PRLW					
====	=====	=====	=====	=====	=====

These line commands are used with the ATPR screen:

Line Commands	Description
IDMS	PreAlert IDMS Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
ADLG	ADS Dialog Name
PRSL	Program Definition Selection Keywords
PRNM	Program Name
PRVR	Version Number
PRSC	Security Code

Line Commands	Description
PRSZ	Program Size
PRTT	Program Type (language)
PRRE	Reentrant type
PRST	Status
PRRS	Program Residency
PRCU	Current User Count
PRSW	Short Wait Count
PRLW	Long Wait Count
====	Line Separator / Auto-repeat

By default, Program Definition data is displayed to match the active tasks. The active task and its program definition are displayed in the same columns.

Program definitions may be displayed independently of the active task data by specifying selection keywords with the PRSL line command. Refer to ["Program Definition Selection" on page 211](#) for more information.

ATTK

Select MENU ATTK from the Active Task & Run Unit Menu to display the ATTK screen, shown in [Figure 42](#). The ATTK screen displays online and external active tasks and related task definitions.

Figure 42 • ATTK screen

COMMAND:	ATTK	8:42:12.6	93.060	90.89%	.TUT FOR TUTORIAL		
IDMS IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS: 24	7.33/SEC			
ATSL	TYP=UE						
ATID	20336	20367	20362	20366	20358	20359	20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
ADLG	GNMDU230	GANDI140			GANDI100	AAPDI020	GANDI105
ATUI	CXZVNGC	DJB3754	DMGVSTE	LASKCNI	LLC1752	CPJ2294	ACW2861
ATST	WAIT	WAIT	WAIT	WAIT	EXEC	WAIT	WAIT
ATTT	2.35S	.05S	1.79S	.28S	2.31S	2.31S	2.29S
.	RELATED TASK DEFINITIONS						
TKSL							
TKCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2
TKPN	ADSOMAIN	ADSOMAIN	MMFA0010	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
TKST	ENA/INT	ENA/INT	ENA/EXT	ENA/EXT	ENA/INT	ENA/INT	ENA/INT
TKCT	12426	12426	454	536	12426	12426	12426
TKRI	11	11	11	11	11	11	11
TKSI	30	30	30	OFF	30	30	30
TKSC	0	0	0	0	0	0	0
TKRT	1200	1200	1200	1200	1200	1200	1200
=====							

These line commands are used with the ATTK screen:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID (hex)
ATCD	Task Code
ATPN	Program Name
ADLG	ADS Dialog Name
ATUI	User ID
ATST	Active Task Status
ATTT	Total Task Transaction Time
TKSL	Task Definition Selection Keywords

Line Commands	Description
TKCD	Task Code
TKPN	Program Name
TKST	Task Status
TKRI	Runaway Task Interval
TKSI	Stall Interval
TKSC	Security Code
TKRT	Resource Timeout Interval
====	Line Separator / Auto-repeat

By default, Task Definition data is displayed to match the active tasks. The active task and its task definition are displayed in the same columns.

Task definitions may be displayed independently of the active task data by specifying selection keywords with the TKSL line command. See ["Task Definition Selection" on page 205](#) for further information.

ATTR

Select the ATTR screen, shown in [Figure 43](#), from the Active Task & Run Unit Menu (on the MENU IDMSM1 screen). The ATTR screen displays online and external active tasks and related terminal definitions.

Figure 43 • ATTR screen

COMMAND:	ATTR	8:42:23.1	93.060	94.41%	.TUT FOR TUTORIAL
IDMS	IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS: 24 7.33/SEC
ATSL	TYP=UE				
ATID	20336	20367	20362	20366	20358 20359 20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2 ADS2 ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN ADSOMAIN ADSOMAIN
ATPT	TRPTE003	DCPTE062	TRPTE020	DCPTE007	DCPTE056 DCPTE063 DCPTE067
ATUI	CXZVNGC	DJB3754	DMGVSTE	LASKCNI	LLC1752 CPJ2294 ACW2861
ADLG	GNMDU230	GANDI140		GANDI100	AAPDI020 GANDI105
ATTT	2.35S	.05S	1.79S	.28S	2.31S 2.31S 2.29S
.	Related Terminal Definitions				
TRSL					
TRPT	TRPTE003	DCPTE062	TRPTE020	DCPTE007	DCPTE056 DCPTE063 DCPTE067
TRTP	3277VTAM	3278VTAM	3277VTAM	3277VTAM	3278VTAM 3279VTAM 3278VTAM
TRLT	TRLTE003	DCLTE062	TRLTE020	DCLTE007	DCLTE056 DCLTE063 DCLTE067
TRLI	VTAMTARS	VTAM	VTAMTARS	VTAM	VTAM VTAM VTAM
TRST	IN/CON	IN/CON	IN/CON	IN/CON	IN/CON IN/CON IN/CON
TRUI	CXZVNGC	DJB3754	DMGVSTE	LASKCNI	LLC1752 CPJ2294 ACW2861
TRUS					
TRUT					
=====					

These line commands are used with the ATTR screen:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID (hex)
ATCD	Task Code
ATPN	Program Name
ATPT	Physical Terminal ID
ATUI	User ID
ADLG	Dialog Name
ATTT	Total Task Transaction Time
TRSL	Terminal Definition Selection Keywords

Line Commands	Description
TRPT	Physical Terminal ID
TRTP	Terminal type
TRLT	Logical Terminal ID
TRLI	Line ID
TRST	Terminal Status
TRUI	User ID
TRUS	UCF System ID
TRUT	UCF Terminal ID
====	Line Separator / Auto-repeat

By default, Terminal Definition data is displayed to match the active tasks. The active task and its terminal definition are displayed in the same columns.

Terminal definitions may be displayed independently of the active task data by specifying selection keywords with the TRSL line command. See ["Terminal Definition Selection" on page 283](#) for further information.

MENU IDMSM2

Select the IDMS-CV System Statistics Menu, shown in [Figure 44](#), from the PreAlert/IDMS Interface Primary Menu (on the MENU IDMSM2 screen).

Figure 44 • IDMS-CV System Statistics Menu

```

COMMAND: _____ IDMSM2      8:43:25.5  93.060  88.37% .TUT FOR TUTORIAL
.
.      PreAlert / IDMS Interface
.      IDMS-CV System Statistics MENU
.
.      System Statistics Summaries
.
MENU IDMSSTAT :      IDMS-CV SYSTEM STATISTICS (3 SCREEN CHAIN)
MENU CSSTAT  :      CONDENSED CURRENT SYSTEM STATISTICS
MENU HISTOGRM :      IDMS-CV SYSTEM HISTOGRAMS
.
MENU PRGPOOL :      PROGRAM / REENTRANT POOL STATISTICS
MENU STGPPOOL :      STORAGE POOL(S) STATISTICS
MENU MPSTATS :      MULTITASK STATISTICS (IDMS 10.2 ONLY)
.
.      System Statistics / Current Task Activity
.
MENU TSKSTATS :      TASK ACTIVITY
MENU RCASTAT :      RESOURCE CONTROL
MENU LOCKSTAT :      LOCK USAGE
MENU SCRQSTAT :      SCRATCH AND QUEUE USAGE
MENU DBSTATS :      DATABASE ACTIVITY
.
.      Position the cursor on the desired MENU name, and press ENTER.

```

Add or delete menu references by editing the IDMSM2 member of the PreAlert help file.

The line commands used to display IDMS system statistics are described in the chapter ["IDMS CV Internals" on page 289](#). The menu options of the IDMS CV System Statistics Menu are described and illustrated in the text that follows.

IDMSSTAT

Select the IDMSSTAT screen, shown in [Figure 45](#), from the IDMS CV System Statistics Menu (on the MENU IDMSM2 screen). IDMSSTAT displays IDMS system statistics for database activity and program and reentrant pools activity, and then links to IDMSSTA1.

Figure 45 • IDMSSTAT screen

COMMAND:	IDMSSTAT 8:43:39.6	93.060	99.22%	.TUT FOR TUTORIAL
IDMS IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS: 24	7.33/SEC
. IDMS System Statistics - Database Related				
SSDB	DATA BASE STATISTICS	CURRENT	PREVIOUS	DELTA RATE
+	TOTAL PAGES READ	1.64873M	1.64842M	311 69.11
+	TOTAL PAGES WRITTEN	180014	180006	8 1.77
+	TOTAL PAGES REQUESTED	30.8709M	30.8555M	15315 3403.33
+	TOTAL CALC RECS NO-OVERFLOW	11551	11550	1 .22
+	TOTAL CALC RECS OVERFLOW	2898	2898	0 .00
+	TOTAL VIA RECS NO-OVERFLOW	76495	76486	9 2.00
+	TOTAL VIA RECS OVERFLOW	27234	27234	0 .00
+	TOTAL RECORDS REQUESTED	30.4522M	30.4367M	15431 3429.11
+	TOTAL RECORDS CURRENT OF RUN-UNIT	14.1476M	14.1447M	2888 641.77
+	TOTAL DATA BASE REQUESTS	18.1712M	18.1655M	5682 1262.66
+	TOTAL RECORDS RELOCATED	0	0	0 .00
+	TOTAL FRAGMENTS STORED	3049	3049	0 .00
. IDMS System Statistics - Program/Reentrant Pool(s)				
SSPL	PROGRAM/REENTRANT POOL STATS	CURRENT	PREVIOUS	DELTA RATE
+	STD PROGRAM POOL LOADS	78	78	0 .00
+	STD PROGRAM POOL LOAD WAITS	0	0	0 .00
+	STD PROGRAM POOL PAGES LOADED	856	856	0 .00
+	STD REENTRANT POOL LOADS	161	160	1 .22
+	STD REENTRANT POOL LOAD WAITS	0	0	0 .00
+	STD REENTRANT POOL PAGES LOADED	2860	2854	6 1.33
+	XA PROGRAM POOL LOADS	0	0	0 .00
+	XA PROGRAM POOL LOAD WAITS	0	0	0 .00

These line commands are used with the IDMSSTAT screen:

Line Commands	Description
IDMS	PreAlert Interface
SSDB	IDMS System Statistics, Database Activity
SSPL	IDMS System Statistics, Program and Reentrant Pools
.ASL	Automatic Screen Link

For more information on IDMS system statistics, refer to ["System Statistics" on page 299](#).

IDMSSTA1

Select the menu IDMSSTAT to display the IDMSSTA1 screen. The IDMSSTA1 screen appears as the second screen in a three-screen chain. The IDMSSTA1 screen, shown in [Figure 46](#), displays IDMS System Statistics for active tasks and get or set time requests, and then links to IDMSSTA2.

Figure 46 • IDMSSTA1 screen

COMMAND:_____IDMSSTA1 8:43:45.6 93.060 99.41% .TUT FOR TUTORIAL					
IDMS IDMSDC1 V1 IDMS INTERFACE ACTIVE TASKS: 24 7.33/SEC					
. IDMS System Statistics - Active Tasks					
SSTK TASK STATISTICS		CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL TASKS PROCESSED	20367	20334	33	7.33
+	TOTAL SYSTEM TASKS PROCESSED	1417	1413	4	.88
+	TOTAL USER MODE TIME	6:05M	6:04M	1.38S	30.8%
+	TOTAL SYSTEM MODE TIME	2:20H	2:20H	2.47S	55.0%
+	SYSTEM TASKS CURRENTLY ACTIVE	16	16		
+	TOTAL TASKS CURRENTLY ACTIVE	24	18		
+	MAX-TASK CONDITION COUNT	0	0	0	.00
+	SHORT-ON-STORAGE CONDITION COUNT	0	0	0	.00
+	TOTAL TASKS ABENDED	5	4	1	.22
+	RUN-AWAY TASK ABEND COUNT	1	0	1	.22
. IDMS System Statistics - Get Set Time Requests					
SSTM GET/SET TIME STATISTICS		CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL GET TIME REQUESTS	176695	176542	153	34.00
+	TOTAL SET TIME REQUESTS	2742	2741	1	.22
+	TOTAL SET TIME WAIT REQUESTS	358	357	1	.22
+	TOTAL SET TIME POST REQUESTS	818	818	0	.00
+	TOTAL SET TIME START TASK REQUESTS	0	0	0	.00
+	TOTAL SET TIME CANCEL REQUESTS	1565	1565	0	.00
.ASL 001,IDMSSTA2					

These line commands are used with the IDMSSTA1 screen:

Line Commands	Description
IDMS	PreAlert Interface
SSTK	IDMS System Statistics, Active Tasks
SSTM	IDMS System Statistics, Get or Set Time Requests
.ASL	Automatic Screen Link

IDMSSTA2

Select the IDMSSTAT menu to display the IDMSSTA2 screen which appears as the third screen in a three-screen chain. The IDMSSTA2 screen, shown in [Figure 47](#), displays IDMS system statistics for scratch and queue requests, and then links back to IDMSSTAT.

Figure 47 • IDMSSTA2 screen

COMMAND:_____IDMSSTA2 8:43:53.1 93.060 95.72% .TUT FOR TUTORIAL					
IDMS IDMSDC1 V1 IDMS INTERFACE ACTIVE TASKS: 24 7.33/SEC					
. IDMS System Statistics - Scratch & Queue					
SSSQ	SCRATCH & QUEUE STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL QUEUE GET REQUESTS	3528	3520	8	1.77
+	TOTAL QUEUE PUT REQUESTS	847	840	7	1.55
+	TOTAL QUEUE DELETE REQUESTS	648	647	1	.22
+	TOTAL QUEUE-AUTOSTART TASKS	0	0	0	.00
+	TOTAL SCRATCH GET REQUESTS	28455	28366	89	19.77
+	TOTAL SCRATCH PUT REQUESTS	25834	25746	88	19.55
+	TOTAL SCRATCH DELETE REQUESTS	18733	18688	45	10.00
.ASL 001, IDMSSTAT					

These line commands are used with the IDMSSTA2 screen:

Line Commands	Description
IDMS	PreAlert Interface
SSSQ	IDMS System Statistics, Scratch & Queue
.ASL	Automatic Screen Link

CSSTAT

Select the CSSTAT screen, shown in [Figure 48](#), from the IDMS-CV System Statistics Menu (on the MENU IDMSM2 screen). The CSSTAT screen displays the condensed form of selected IDMS System Statistics.

Figure 48 • CSSTAT screen

COMMAND:	CSSTAT	8:45:09.3	93.173	53.81%	.TUT FOR TUTORIAL			
IDMS IDMS12G	V120	IDMS INTERFACE	ACTIVE	TASKS:	14	.00/SEC		
. Database Activity Statistics								
CSDB	PG-READ	PG-WRTS	PG-REQS	CALC-OFL	CALC-NO	VIA-OFL	VIA-NO	
+	1769	110	9703	2	31	1	9	
. Program & Reentrant Pool(s) Statistics								
CSPL	PGM-LOAD	PGM-WAIT	RNT-LOAD	RNT-WAIT	XAP-LOAD	XAP-WAIT	XAR-LOAD XAR-WAIT	
+	3	0	30	0	9	0	127 0	
. Task Activity Statistics								
CSTK	TASKS	MAX-TASK	ABEND-CT	RUN-AWAY	SOS-CT	LOG-USED		
+	102	0	0	0	0	1.00%		
. Lock Usage Statistics								
CSLK	RUN UNIT		L-TERM	TOTAL				
+	LOCKS	9	0	9				
+	SESSIONS	9	2	11				
. Resource Control Usage Statistics								
CSRC	RLE USED - PCT	RCE USED - PCT		DPE USED - PCT		ECB USED - PCT		
+	386 22.88%	370 21.93%		110 16.29%		1 2.63%		
. Journal Buffer Statistics								
CSJB	JOURNAL WAITS	PAGES WRITTEN	1-10--20--30--40--50--60--70--80--90-100%					
+	0	.47	11	2 2		2 83		
. CPU usage, I/O rate, and Paging rate								
CSMV	CPU-RATE	I/O RATE	PIN-RATE					
+	.15%	.00	.00					

These line commands are used with the CSSTAT screen:

Line Commands	Description
IDMS	PreAlert Interface
CSDB	Database Activity Statistics
CSPL	Program and Reentrant Pools Statistics
CSTK	Task Activity Statistics
CSLK	Lock Usage Statistics
CSRC	Resource Control Usage Statistics
CSJB	Journal Buffer Statistics
CSMV	CPU Usage, I/O Rate, and Paging Rate Statistics

HISTOGRM

Select the HISTOGRM screen, shown in [Figure 49](#), from the IDMS-CV System Statistics Menu (on the MENU IDMSM2 screen). The HISTOGRM screen displays histograms for selected IDMS resources.

Figure 49 • HISTOGRM screen

COMMAND: _____ HISTOGRM 8:44:34.9 93.060 100.98% .TUT FOR TUTORIAL									
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS:	24	7.33/SEC	
HSJR SIZE PUT JOURNAL REQUESTS									
+	0-	99=	0 |	100-	199=	0 |	200-	299=	0 |
+	300-	399=	0 |	400-	499=	0 |	500-	599=	0 |
+	600-	699=	0 |	700-	799=	0 |	800-	899=	0 |
+	900-	999=	0 |	1000-	1099=	0 |	1100	=	726 |
HSPL SIZE OF CALLED PROGRAMS									
+	0-	249=	8450 |	250-	499=	2194 |	500-	749=	3041 |
+	750-	999=	5139 |	1000-	1249=	952 |	1250-	1499=	4433 |
+	1500-	1749=	2069 |	1750-	1999=	7280 |	2000-	2249=	1332 |
+	2250-	2499=	8441 |	2500-	2749=	1220 |	2750	=	190471 |
HSQU SIZE QUEUE RECORDS WRITTEN									
+	0-	99=	610 |	100-	199=	51 |	200-	299=	4 |
+	300-	399=	1 |	400-	499=	181 |	500-	599=	0 |
+	600-	699=	0 |	700-	799=	0 |	800-	899=	0 |
+	900-	999=	0 |	1000-	1099=	0 |	1100	=	0 |
HSSR SIZE SCRATCH RECORDS WRITTEN									
+	0-	99=	10737 |	100-	199=	1912 |	200-	299=	1678 |
+	300-	399=	1070 |	400-	499=	42 |	500-	599=	1764 |
+	600-	699=	75 |	700-	799=	2 |	800-	899=	51 |
+	900-	999=	54 |	1000-	1099=	78 |	1100	=	8356 |
HSTS SIZE STORAGE REQUESTS (ALL TYPES)									
+	0-	49=	51949 |	50-	99=	30626 |	100-	149=	56610 |
+	150-	199=	29732 |	200-	249=	67215 |	250-	299=	236545 |
+	300-	349=	192092 |	350-	399=	48499 |	400-	449=	41956 |
+	450-	499=	10997 |	500-	549=	22148 |	550	=	424331 |

These line commands are used with the HISTOGRM screen:

Line Commands	Description
IDMS	PreAlert Interface
HSJR	Histogram, Put Journal Sizes
HSPL	Histogram, Called Programs Sizes
HSQU	Histogram, Queue Records Written Sizes
HSSR	Histogram, Scratch Records Written Sizes
HSTS	Histogram, Storage Request Sizes (all types)
HSUS	Histogram, Storage Request Sizes (user only)

PRGPOOL

Select the PRGPOOL screen, shown in [Figure 50](#), from the IDMS-CV System Statistics Menu (on the MENU IDMSM2 screen). The PRGPOOL screen displays statistics for program and reentrant pools.

Figure 50 • PRGPOOL screen

[illegible]

These line commands are used with the PRGPOOL screen:

Line Commands	Description
IDMS	PreAlert Interface
PRPL	Program and Reentrant Pool statistics
PGPM	Program Pool Map
HSPL	Histogram, Loaded Program Sizes

STGPOOL

Select the STGPOOL screen, shown in [Figure 51](#), from the IDMS-CV System Statistics Menu (on the MENU IDMSM2). STGPOOL displays statistics for storage pools.

Figure 51 • STGPOOL screen

```

COMMAND:_____STGPOOL    8:44:58.2  93.060  98.48% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE   TASKS:  24   7.33/SEC
.   Storage Pools Summary
STPS POOL ADDRESS  SIZE  CUSHN  INUSE  HWM    SOS FIX CONTAINS TYPES
+      0  00514000  3268K  120K  1480K  1688K    0  N  ALL
+    128  05961000  5000K   64K  2380K  2668K    0  N  SH SK US UK
=====
.   Storage Pool Statistics
STPL      STG POOL  0  CONTAINS TYPES: ALL
+      SIZE= 3268K  USAGE= CURRENT          HWM          GET SCAN1=  862942  89%
+ CUSHION=  120K  LONG = 1404K  42%  1608K  49%  GET SCAN2=   57146   5%
+ STG WAIT=    0  SHORT=   76K   2%  120K   3%  GET SCAN3=   47505   4%
+   SOS CNT=    0  TOTAL= 1480K  45%  1688K  51%  GET REQS =   967593
+ FREE REQS=  966708  PAGES RELEASED=      0  PAGE RELEASES=      0
=====
.   Storage Pool Map
STPM      STG POOL  0  SIZE= 3268K  INUSE= 1328K  HWM= 1688K
+   FREE=.  UNUSED=_  SHORT-FULL=S, PART=>  LONG-FULL=L, PART=<  KEPT-FULL=K, PART=+
+ 00514000  >>S>>S>S>.....>>>.....
+ 00554000  _____
+ 00594000  _____
+ 005D4000  _____
+ 00614000  _____
+ 00654000  _____
+ 00694000  _____
+ 006D4000  .....<LLLLLLLLLLLLLLLL<.....+KK

```

These line commands are used with the STGPOOL screen:

Line Commands	Description
IDMS	PreAlert System Statistics
STPS	Storage Pool(s) Summary
STPL	Storage Pool Statistics
STPM	Storage Pool Map

The STPL and STPM line commands display storage pool 0 (zero) by default. For other storage pools, specify the storage pool number with the line commands.

MPSTATS

Select the MPSTATS screen, shown in [Figure 52](#), from the IDMS-CV System Statistics Menu (on the MENU IDMSM2 screen). The MPSTATS screen displays multi-programming statistics.

Figure 52 • MPSTATS screen

COMMAND:_____ MPSTATS 8:45:09.1 93.060 94.75% .TUT FOR TUTORIAL							
IDMS	IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS:	24	7.33/SEC	
.	MPMODE Table Statistics						
CSMP	NAME	REQUEST	COUNT	WAIT	COUNT		
+	ANY	3,456			0		
+	DC	21,654			49		
+	DB	9,210			12		
+	USER	1,619			2		
+	LOADER	213			5		
+	CALLER	5,760			9		
.	Subtask Activity						
CSST	NAME	STATUS	DISPATCH	WAKEUP	USER-CPU	SYS-CPU	TASK ID
+	MAINTASK	IDLE	8520	7116	.00S	14.85S	
+	SUBT0001	BUSY	19340	8698	45,196S	94,195S	9271
.	Log Service Driver(s)						
CSLG	READS	WRITES	WAITS	PCT-USED			
+	1246	1196	751	8.85%			

These line commands are used with the MPSTATS screen:

Line Commands	Description
IDMS	PreAlert Interface
CSMP	MPMODE Table Statistics
CSST	Multi-programming Subtask Activity
CSLG	Log Service Driver Statistics

TSKSTATS

Select the TSKSTATS screen, shown in [Figure 53](#), from the IDMS-CV System Statistics Menu (on the MENU IDMSM2 screen). The TSKSTATS screen displays task activity statistics and current active tasks.

Figure 53 • TSKSTATS screen

COMMAND:_____ TSKSTATS 8:45:33.6 93.060 91.42% .TUT FOR TUTORIAL							
IDMS	IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS: 24	7.33/SEC	
CSTK	TASKS	MAX-TASK	ABEND-CT	RUN-AWAY	SOS-CT	LOG-USED	
+	20367	0	5	1	0	8.85%	
=====							
SSTK	TASK STATISTICS				CURRENT	PREVIOUS	DELTA RATE
+	TOTAL TASKS PROCESSED				20367	20334	33 7.33
+	TOTAL SYSTEM TASKS PROCESSED				1417	1413	4 .88
+	TOTAL USER MODE TIME				6:05M	6:04M	1.38S 30.8%
+	TOTAL SYSTEM MODE TIME				2:20H	2:20H	2.47S 55.0%
+	SYSTEM TASKS CURRENTLY ACTIVE				16	16	
+	TOTAL TASKS CURRENTLY ACTIVE				24	18	
+	MAX-TASK CONDITION COUNT				0	0	0 .00
+	SHORT-ON-STORAGE CONDITION COUNT				0	0	0 .00
+	TOTAL TASKS ABENDED				5	4	1 .22
+	RUN-AWAY TASK ABEND COUNT				1	0	1 .22
=====							
. Current Task Activity							
ATSL TYP=UE							
ATID	20336	20367	20362	20366	20358	20359	20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
ATST	WAIT	WAIT	WAIT	WAIT	EXEC	WAIT	WAIT
ATWT							
ATTT	2.35S	.05S	1.79S	.28S	2.31S	2.31S	2.29S
=====							

These line commands are used with the TSKSTATS screen:

Line Commands	Description
IDMS	PreAlert Interface
CSTK	Task Activity Statistics
SSTK	IDMS System Statistics, Task Activity
ATSL	Active Task Selection Keywords
ATID	Active task ID
ATCD	Task Code
ATPN	Program Name
ATST	Task Status

Line Commands	Description
ATWT	Waiting Time
ATTT	Total Task Transaction Time
====	Line Separator / Auto-repeat

RCASTAT

Select the RCASTAT screen, shown in [Figure 54](#), from the IDMS-CV System Statistics Menu (on the MENU IDMSM2 screen). The RCASTAT screen displays resource control statistics and resource control usage for current active tasks.

Figure 54 • RCASTAT screen

COMMAND: _____ RCASTAT 8:45:45.8 93.060 88.72% .TUT FOR TUTORIAL									
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS:	24	7.33/SEC	
. IDMS Current Statistics - Resource Control									
CSRC	RLE USED - PCT	RCE USED - PCT	DPE USED - PCT	ECB USED - PCT					
+	3478 51.52%	3421 55.29%	397 50.44%	1 .50%					
=====									
. Current Active Task Resource Control Usage									
ATSL	TYP=UE								
ATID	20336	20367	20362	20366	20358	20359	20360		
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2		
ATRL	11/ 11	10/ 10	31/ 32	17/ 18	15/ 15	16/ 16	11/ 11		
ATRE	12/ 12	7/ 7	23/ 24	14/ 15	12/ 12	14/ 14	12/ 12		
ATDE	8/ 8	7/ 7	10/ 10	6/ 6	8/ 8	8/ 8	8/ 8		
ATIL	0	0	0	0	0	0	0		
=====									

These line commands are used with the RCASTAT screen:

Line Commands	Description
IDMS	PreAlert Interface
CSRC	Resource Control Usage
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATRL	RLE Usage, Current/Maximum

Line Commands	Description
ATRE	RCE Usage, Current/Maximum
ATDE	DPE Usage, Current/Maximum
ATIL	ILE Usage, Current only
====	Line Separator / Auto-repeat

LOCKSTAT

Select the LOCKSTAT screen, shown in [Figure 55](#), from the IDMS-CV System Statistics Menu (on the MENU IDMSM2 screen). The LOCKSTAT screen displays statistics for current locks held and active task lock usage.

Figure 55 • LOCKSTAT screen

```

COMMAND: LOCKSTAT 8:45:56.0 93.243 100.67% .TUT FOR TUTORIAL
IDMS IDMSDC12 V120 IDMS INTERFACE ACTIVE TASKS: 24 7.33/SEC
. Current Locks Held Statistics
CSLK RUN UNIT L-TERM TOTAL
+ LOCKS 21 175 196
+ SESSIONS 15 27 42
=====
. Current Active Task Lock Usage
ATSL TYP=UE
ATID 20336 20367 20362 20366 20358 20359 20360
ATCD ADS2 ADS2 MMFT010P MMFT050 ADS2 ADS2 ADS2
ATPN ADSOMAIN ADSOMAIN MMFA0012 MMFA0050 ADSOMAIN ADSOMAIN ADSOMAIN
ATLK 7/192 0/ 0 0/ 0 0/ 2 1/ 19 5/111 0/ 0
=====
. Lock Usage Summary
LSUM ASK/LTERM LOCKS
+ TASK: 2 RHDCRUAL 1
... several lines omitted ...
+ TASK: 20336 GNMDU230 7
+ TASK: 20367 GANDI140 0
... several lines omitted ...
+ LTERM:VTMLT001 21
+ LTERM:VTMLT003 12

```

These line commands are used with the LOCKSTAT screen:

Line Commands	Description
IDMS	PreAlert Interface
CSLK	Current Locks Held Statistics
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code

Line Commands	Description
ATPN	Program Name
ATLK	Locks Held, Current/Total
====	Line Separator / Auto-repeat
LSUM	Lock Usage Summary

SCRQSTAT

Select the SCRQSTAT screen, shown in [Figure 56](#), from the IDMS-CV System Statistics Menu (on the MENU IDMSM2 screen). The SCRQSTAT screen displays IDMS system statistics for scratch and queue and current active task scratch and queue usage.

Figure 56 • SCRQSTAT screen

COMMAND:_____SCRQSTAT 8:46:08.1 93.060 93.25% .TUT FOR TUTORIAL							
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS: 24	7.33/SEC
. IDMS System Statistics - Scratch & Queue							
SSSQ	SCRATCH & QUEUE STATISTICS			CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL QUEUE GET REQUESTS			3528	3520	8	1.77
+	TOTAL QUEUE PUT REQUESTS			847	840	7	1.55
+	TOTAL QUEUE DELETE REQUESTS			648	647	1	.22
+	TOTAL QUEUE-AUTOSTART TASKS			0	0	0	.00
+	TOTAL SCRATCH GET REQUESTS			28455	28366	89	19.77
+	TOTAL SCRATCH PUT REQUESTS			25834	25746	88	19.55
+	TOTAL SCRATCH DELETE REQUESTS			18733	18688	45	10.00
=====							
. Current Active Task - Scratch and Queue Usage							
ATSL TYP=UE							
ATID	20336	20367	20362	20366	20358	20359	20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
ATSG	0	0	1	1	0	0	0
ATSP	0	0	0	0	0	35	0
ATSD	0	0	0	0	0	0	0
ATQG	0	0	0	2	0	0	0
ATQP	0	0	0	0	0	0	0
ATQD	0	0	0	0	0	0	0

These line commands are used with the SCRQSTAT screen:

Line Commands	Description
IDMS	PreAlert Interface
SSSQ	IDMS System Statistics, Scratch & Queue
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code

Line Commands	Description
ATPN	Program Name
ATSG	Scratch Gets
ATSP	Scratch Puts
ATSD	Scratch Deletes
ATQG	Queue Gets
ATQP	Queue Puts
ATQD	Queue Deletes
=====	Line Separator / Auto-repeat

DBSTATS

Select the DBSTATS screen, shown in [Figure 57](#), from the IDMS-CV System Statistics Menu (on the MENU IDMSM2 screen). The DBSTATS screen displays IDMS system statistics for database activity and current active task database activity.

Figure 57 • DBSTATS screen

COMMAND:_____DBSTATS 8:46:22.6 93.060 98.90% .TUT FOR TUTORIAL							
IDMS	IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS: 24	7.33/SEC	
SSDB	DATA BASE STATISTICS			CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL PAGES READ			1.64873M	1.64842M	311	69.11
+	TOTAL PAGES WRITTEN			180014	180006	8	1.77
+	TOTAL PAGES REQUESTED			30.8709M	30.8555M	15315	3403.33
+	TOTAL CALC RECS NO-OVERFLOW			11551	11550	1	.22
+	TOTAL CALC RECS OVERFLOW			2898	2898	0	.00
+	TOTAL VIA RECS NO-OVERFLOW			76495	76486	9	2.00
+	TOTAL VIA RECS OVERFLOW			27234	27234	0	.00
+	TOTAL RECORDS REQUESTED			30.4522M	30.4367M	15431	3429.11
+	TOTAL RECORDS CURRENT OF RUN-UNIT			14.1476M	14.1447M	2888	641.77
+	TOTAL DATA BASE REQUESTS			18.1712M	18.1655M	5682	1262.66
+	TOTAL RECORDS RELOCATED			0	0	0	.00
+	TOTAL FRAGMENTS STORED			3049	3049	0	.00
. Current Active Task - Database Activity							
ATSL TYP=UE							
ATID	20336	20367	20362	20366	20358	20359	20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
ATDB	104	7	39	35	96	151	55
ATTR	312	1	32	28	98	178	55
ATRU	48	0	13	15	57	144	32
ATRC	6.50		2.46	1.86	1.71	1.23	1.71
=====							

These line commands are used with the DBSTATS screen:

Line Commands	Description
IDMS	PreAlert Interface
SSDB	IDMS System Statistics, Database Activity
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
ATDB	Database Requests
ATTR	Records Requested
ATRU	Records Current of Run Unit
ATRC	Records Requested to Current Ratio
====	Line Separator / Auto-repeat

MENU IDMSM3

Select MENU IDMSM3 from the PreAlert Interface Primary Menu to display the PreAlert Interface Database/Buffer/File/Journal Definitions Menu. The IDMSM3 screen, shown in [Figure 58](#), presents options for selecting screens that display database area, buffer, file, and journal definitions.

Figure 58 • IDMSM3 screen

```

COMMAND:          IDMSM3      10:37:22.8  96.187  69.06% .TUT for Tutorial
.
.      PreAlert / IDMS Interface
.      Database / Buffer / File / Journal Definitions
.
MENU DBAREAS :    DISPLAY ALL DB AREAS, SORTED ON AREA NAME
MENU DBPLOTS :    DATA BASE AREA PLOTS
MENU DBHL      :    DATA BASE AREA, HORIZONTAL DISPLAY
.
MENU BFFRDEFN :    DISPLAY ALL BUFFERS, SORTED ON BUFFER NAME
MENU BFFRPLT :    BUFFER PLOTS
MENU BFHL      :    BUFFER, HORIZONTAL DISPLAY
.
MENU FILEDEFN :    DISPLAY ALL FILES, SORTED ON FILE NAME
MENU FILEPLOT :    FILE PLOTS
MENU FCHL      :    FILE, HORIZONTAL DISPLAY
.
MENU JRNLDEFN :    DISPLAY ALL JOURNALS
.
MENU PROddb    :    DB AREA / BUFFER / JOURNAL SUMMARY
.
.
.      Position the cursor on the desired MENU name, and press ENTER.
.

```

Menu references may be added or deleted by editing the IDMSM3 member of the PreAlert help file.

The menu options of the PreAlert Database/Buffer/File/Journal Definitions Menu are described and illustrated in the text that follows.

DBAREAS

Select the DBAREAS screen, shown in [Figure 59](#), from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM2 screen). The DBAREAS screen displays selected information for all database areas. This information is sorted by the area name.

Figure 59 • DBAREAS screen

COMMAND:	DBAREAS	8:47:02.0	93.060	97.66%	.TUT FOR TUTORIAL				
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS:	24	7.33/SEC	
.	Database Area Displays - Sorted by Area Name								
DBSL	SRT=DBNM								
DBNM	AAR-AR-P	AAR-BANK	AAR-BOM-	AAR-BTCH	AAR-BUS-	AAR-CAPA	AAR-CARA	AAR-CARA	+
+	AY-AREA	-AREA	AREA	-AREA	AREA	UD-AREA	CT-AREA	UD-AREA	
DBAN	CAS-AR-P	CAS-BANK	CAS-BOM-	AAR-BTCH	CAS-BUS-	CAS-CAPA	CAS-CARA	CAS-CARA	
+	AY-AREA	-AREA	AREA	-AREA	AREA	UD-AREA	CT-AREA	UD-AREA	
DBST	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	
DBTP	IDMS DB	IDMS DB	IDMS DB	IDMS DB	IDMS DB	IDMS DB	IDMS DB	IDMS DB	
DBLP	2372011	2533431	2501551	2200001	2369551	2533451	2566791	2564841	
DBHP	2446050	2533440	2501560	2200400	2372010	2534200	2567090	2566790	
DBSC	CASSCHEM	CASSCHEM	CASSCHEM	CASSCHEM	CASSCHEM	CASSCHEM	CASSCHEM	CASSCHEM	
DBSN	1	1	1	1	1	1	1	1	
DBRD	15872	3	3	5777	16002	749	630	1995	
DBWR	420	3	3	24	6	14	125	229	
DBRF	161918			13167	124843	1124	2922	11638	
DBRP	91.07%			69.50%	88.63%	60.01%	82.26%	85.36%	
DBUT	11.20	1.00	1.00	3.27	8.80	2.50	5.63	6.83	
=====									
DBNM	AAR-CAT-	AAR-COEA	AAR-COST	AAR-CPRA	AAR-CRP-	AAR-CUST	AAR-HIST	AAR-INDE	+
+	AREA	UD-AREA	-AREA	UD-AREA	AREA	-AREA	-AREA	X-AREA	
DBAN	CAS-CAT-	CAS-COEA	CAS-COST	CAS-CPRA	CAS-CRP-	CAS-CUST	CAS-HIST	CAS-INDE	

These line commands are used with the DBAREAS screen:

Line Commands	Description
IDMS	PreAlert Interface
DBSL	Database Area Selection Keywords
DBNM	Area Name
DBAN	Area Alias Name
DBST	Area Status
DBTP	Area Type
DBLP	Low Page Number
DBHP	High Page Number
DBSC	Schema Name
DBSN	Schema Version Number

Line Commands	Description
DBRD	Total Pages Read Count
DBWR	Total Pages Written Count
DBRF	Total Reads Found in Buffer Count
DBRP	Reads Found in Buffer Percentage
DBUT	Buffer Utilization Ratio
====	Line Separator /Auto-repeat

With Auto-repeat active, PreAlert will automatically execute the DBNM through DBUT line commands to display all database areas. Use the PF7 and PF8 keys to scroll up and down through the display.

To display only specific database areas, use the DNM= selection keyword with the DBSL line command. See ["Database Area Selection" on page 217](#) for further information.

DBPLOTS

Select the DBPLOTS screen from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM3 screen). The DBPLOTS screen, shown in [Figure 60](#), displays and plots selected statistics for database areas.

Figure 60 • DBPLOTS screen

COMMAND:	DBPLOTS	11:07:50.8	96.187	3.50%	.TUT for Tutorial
IDMS IDMS2	V2	IDMS INTERFACE ACTIVE	TASKS: 14	.00/SEC	
.	Data Base Area Plots				
.					
DBSL	SRT=DBNM				
DBNM	APPLDICT	APPLDICT	CATSYS.D	CATSYS.D	CATSYS.D
+	.DDLDCLO	.DDLDCLO	.DDLDCLO	.DDLDCLO	.DDLDCLO
+	D	D	D	D	D
DBIR	.00	.00	.00	.00	.00
DBRR	.00	.00	.00	.00	.00
DBRP	.00%	65.86%	.00%	.00%	.00%
DBUT	1.00	2.92	1.00	1.00	1.00
.					
.	Use FLD= keyword to specify plot field,				
.	DBRR DBIR DBRP DBUT DIRR DIIR DIRP DIUT				
DBPL	FLD=DBIR				
+	AREA NAME	I/O RATE	...	10...	20...
+	APPLDICT.DDLDCLO	.00	...	10...	20...
+	APPLDICT.DDLDCLO	.00	...	10...	20...
+	CATSYS.DDLDCLO	.00	...	10...	20...
+	CATSYS.DDLDCLO	.00	...	10...	20...
+	CATSYS.DDLDCLO	.00	...	10...	20...
+	DBOLDICT.DDLDCLO	.00	...	10...	20...

These line commands are used with the DBPLOTS screen:

Line Commands	Description
IDMS	PreAlert Interface
DBSL	Database Area Selection Keywords
DBNM	Area Name
DBIR	I/O Rate
DBRR	Record Request Rate
DBRP	Reads Found in Buffer Percentage
DBUT	Buffer Utilization Ratio
DBPL	Database Area plots

Use the database area selection keywords with the DBSL line command to select specific database areas for display. Then specify the DBPL plot field using the FLD= keyword. See ["Database Area Plots" on page 233](#) for further information.

DBHL

Select the DBHL screen ([Figure 61](#)) from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM3 screen). This screen displays database area statistics in a horizontal format using the DBHL line command.

Figure 61 • DBHL screen

```
COMMAND:_____DBHL      11:54:58.7  93.299  99.81% .TUT for Tutorial
.           Data Base Areas, horizontal display

IDMS IDMS12G      V120    IDMS INTERFACE ACTIVE    TASKS:  14      .00/SEC

.  Use DBSL selection parms to select areas for display.
DBSL SRT=DBNM

.  Specify 1, 2, 3, or 4 for the DBHL display format number.
DBHL 1 1/4
Status      Type      Format      Grp Low Page  Hi Page
+ AAR-AR-PAY-AREA      UPDATE    IDMS DB    NETWORK      0 2372011 2446050
+ AAR-BANK-AREA        UPDATE    IDMS DB    NETWORK      0 2533431 2533440
+ AAR-BOM-AREA          UPDATE    IDMS DB    NETWORK      0 2501551 2501560
+ AAR-BTCH-AREA         UPDATE    IDMS DB    NETWORK      0 2200001 2200400
+ AAR-BUS-AREA          UPDATE    IDMS DB    NETWORK      0 2369551 2372010
+ AAR-CAPAUD-AREA       UPDATE    IDMS DB    NETWORK      0 2533451 2534200
+ AAR-CARACT-AREA       UPDATE    IDMS DB    NETWORK      0 2566791 2567090
+ AAR-CARAUD-AREA       UPDATE    IDMS DB    NETWORK      0 2564841 2566790
```

These line commands are used with the DBHL screen:

Line Commands	Description
IDMS	PreAlert Interface
DBSL	Database Area Selection Keywords
DBHL	Database Area data, horizontal format

The DBHL line command displays four different formats. Refer to ["Database Area Horizontal Display" on page 225](#) for further information on the DBHL line command.

BFFRDEFN

Select the BFFRDEFN screen from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM3 screen). The BFFRDEFN screen, shown in [Figure 62](#), displays selected information for all buffers. This information is sorted by name.

Figure 62 • BFFRDEFN screen

COMMAND:_____BFFRDEFN 8:47:27.0 93.060 96.34% .TUT FOR TUTORIAL									
IDMS	IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS:	24	7.33/SEC			
. Buffer Displays - Sorted by IDMS Buffer Name									
BFSL SRT=BFFR									
BFFR	BUF15476	BUF15476	BUF23476	BUF4084	BUF4084A	BUF4084B	BUF4276	BUF7476	+
+	A								
BFSZ	15476	15476	23476	4084	4084	4084	4276	7476	
BFBW	0	0	0	0	0	0	0	0	
BFRD	97474	202955	158071	665076	108917	145741	52692	215364	
BFWR	1315	2661	16133	40283	32545	2070	215	50257	
BFRF	2.68852M	5.64904M	563627	10.8781M	645919	3.16390M	304706	3.59119M	
BFRP	96.50%	96.53%	78.09%	94.23%	85.57%	95.59%	85.25%	94.34%	
BFUT	28.58	28.83	4.56	17.35	6.93	22.70	6.78	17.67	
=====									
BFFR	BUF7476A	BUF7476B	GENERAL- SCRATCH-						
+			BUFFER	BUFFER					
BFSZ	7476	7476	4084	4084					
BFBW	0	0	0	0					
BFRD	71819	38999	11949	1667					
BFWR	5449	28265	5	1280					
BFRF	901245	777312	42439	37016					
BFRP	92.61%	95.22%	78.03%	95.69%					
BFUT	13.54	20.93	4.55	23.20					
=====									
9 LINE(S) REPEATED									

These line commands are used with the BFFRDEFN screen:

Line Commands	Description
IDMS	PreAlert Interface
BFSL	Buffer Selection Keywords
BFFR	Buffer Name
BFSZ	Buffer Page Size
BFBW	Waits for Buffer Count
BFRD	Pages Read Count
BFWR	Pages Written Count
BFRF	Reads Found in Buffer Count
BFRP	Reads Found in Buffer Percent
BFUT	Buffer Utilization Ratio
====	Line Separator / Auto-repeat

With Auto-repeat active, PreAlert will automatically execute the BFFR through BFUT line commands to display all buffers. Use the PF7 and PF8 keys to scroll up and down through the display.

To display only specific buffers, use the BNM= selection keyword with the BFSL line command. See ["Buffers" on page 259](#) for further information.

BFFRPLOT

Select the BFFRPLOT screen from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM3 screen). The BFFRPLOT screen, shown in [Figure 63](#), displays and plots selected statistics for IDMS buffers.

Figure 63 • BFFRPLOT screen

```

COMMAND:          BFFRPLOT  11:08:49.5  96.187   9.75% .TUT for Tutorial
IDMS IDMS2        V2      IDMS INTERFACE ACTIVE  TASKS:  14   .00/SEC
.
.                  Buffer Plots
.
BFSL SRT=BFFR
BFFR DBOL_BUF DEFAULT_ EMPLDEMO LOG_BUFF
+   FER      BUFFER   _BUFFER  ER
BFIR      .00      .00      .00      .00
BFRR      .00      .00      .00      .00
BFRP      .00%    56.17%    .00%
BFUT      1.00     2.28     1.00
.
.   Use FLD= keyword to specify plot field
.   BFRR BFIR BFRP BFUT  BIRR BIIR BIRP BIUT
BFPL FLD=BFIR
+ BUFFER NAME      I/O RATE ...10...20...30...40...50...60...70...80...90...100
+ DBOL_BUFFER      .00 ...|...|...|...|...|...|...|...|...|...|...|
+ DEFAULT_BUFFER   .00 ...|...|...|...|...|...|...|...|...|...|...|
+ EMPLDEMO_BUFFER  .00 ...|...|...|...|...|...|...|...|...|...|...|
+ LOG_BUFFER       .00 ...|...|...|...|...|...|...|...|...|...|...|

```

These line commands are used with the BFFRPLOT screen:

Line Commands	Description
IDMS	PreAlert Interface
BFSL	Buffer Selection Keywords
BFFR	Buffer Name
BFIR	I/O Rate
BFRR	Record Request Rate
BFRP	Reads Found in Buffer Percent
BFUT	Buffer Utilization Ratio
BFPL	Buffer Plots

Use the buffer selection keywords with the BFSL line command to select specific buffers for display. Then specify the BFPL plot field using the FLD= keyword. See ["Buffer Plots" on page 271](#) for further information.

BFHL

Select the BFHL screen from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM3 screen). Shown in [Figure 64](#), this screen displays buffer statistics in a horizontal format by using the BFHL line command.

Figure 64 • BFHL screen

```

COMMAND:_____BFHL      11:58:02.6  93.299  95.62% .TUT for Tutorial
.
      IDMS Buffers, horizontal display

IDMS IDMS12G      V120  IDMS INTERFACE ACTIVE  TASKS:  14      .00/SEC

.  Use BFSL selection parms to select buffers for display.
BFSL SRT=BFRR

.  Specify 1, 2, or 3 for the BFHL display format number.
BFHL 1 1/3
      Pages--Max  Size  Waits      RFB%   Ratio   I/Os   Reqs
+ BUF15476      30   30 15476      0  96.50%  28.58   3.7   53.5
+ BUF15476A     500  500 15476      0  96.53%  28.83   6.8  324.8
+ BUF23476      15   15 23476      0  78.09%   4.56   .2    .4
+ BUF4084      300  300 4084      0  94.23%  17.35  27.5  298.4
+ BUF4084A      75   75 4084      0  85.57%   6.93   .0    .2
+ BUF4084B      25   25 4084      0  95.59%  22.70   6.4   35.3
+ BUF4276       15   15 4276      0  85.25%   6.78   1.5    4.2
+ BUF7476      600  600 7476      0  94.34%  17.67  10.8  592.0

```

These line commands are used with the BFHL screen:

Line Commands	Description
IDMS	PreAlert Interface
BFSL	Buffer Selection Keywords
BFHL	Buffer Data, Horizontal Format

The BFHL line command displays three different formats. Refer to ["Buffer Horizontal Display" on page 263](#) for further information on the BFHL line command.

FILEDEFN

Select the FILEDEFN screen from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM3 screen). The FILEDEFN screen, shown in [Figure 65 on page 113](#), displays selected information for all file definitions. This information is sorted by the file name.

Figure 65 • FILEDEFN screen

COMMAND: FILEDEFN 10:37:52.5 96.187 38.62% .TUT for Tutorial									
IDMS	IDMS2	V2	IDMS	INTERFACE	ACTIVE	TASKS:	14	.00/SEC	
. File Displays - Sorted by IDMS File Name									
FCSL SRT=FCNM									
FCNM	APPLDICT	APPLDICT	CATSYS.D	CATSYS.D	CATSYS.D	DBOLDICT	DBOLDICT	DBOLTEST	+
+	.DICTDB	.DLOddb	CCAT	CCATL	CCATX	.DBOLDML	.DBOLLOD	.DBOLFIL	
+								E	
FCDD	DICTDB	DLOddb	DCCAT	DCCATL	DCCATX	DBOLDML	DBOLLOD	DBOLFILE	
FCST	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	
FCTP	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	
FCRD	469	15	1	15	1	1	3	1	
FCWR	1	1	1	1	1	1	1	1	
FCRF	905	0	0	0	0	0	0	0	
FCRP	65.86%	.00%	.00%	.00%	.00%	.00%	.00%	.00%	
FCUT	2.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
=====									
FCNM	EMPDEMO.	EMPDEMO.	EMPDEMO.	EMPDEMO1	EMPDEMO1	EMPDEMO1	EMPDEMO2	PROJSEG.	+
+	EMPDEMO	INSDEMO	ORGDEMO	.EMPDEMO	.INSDEMO	.ORGDEMO	.EMPFILE	PROJDEMO	
+				1	1	1			
FCDD	EMPDEMO	INSDEMO	ORGDEMO	EMPDEMO1	INSDEMO1	ORGDEMO1	EMPFILE	PROJDEMO	
FCST	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	
FCTP	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	
FCRD	1	1	1	1	1	1	3	1	
FCWR	1	1	1	1	1	1	3	1	

These line commands are used with the FILEDEFN screen:

Line Commands	Description
IDMS	PreAlert Interface
FCSL	File Selection Keywords
FCNM	File Name
FCDD	MVS DD Name
FCST	File Status
FCTP	File Type
FCRD	Pages Read
FCWR	Pages Written
FCRF	Reads Found in Buffer Count

Line Commands	Description
FCRP	Reads Found in Buffer Percent
FCUT	Buffer Utilization Ratio
====	Line Separator / Auto-repeat

FILEPLOT

Select the FILEPLOT screen, shown in [Figure 66](#), from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM3 screen). The FILEPLOT screen displays and plots selected statistics for IDMS file definitions.

Figure 66 • FILEPLOT screen

```

SPF COMMAND ==>
COMMAND:          FILEPLOT   10:38:15.6  96.187  59.87% .TUT for Tutorial
IDMS IDMS2        V2        IDMS INTERFACE ACTIVE  TASKS:  14   .00/SEC
.
.
.
FCSL SRT=FCNM
FCNM APPLDICT APPLDICT CATSYS.D CATSYS.D CATSYS.D DBOLDICT DBOLDICT DBOLTEST +
+ .DICTDB .DLODDB CCAT      CCATL      CCATX      .DBOLDML .DBOLLOD .DBOLFIL
+
+
FCIR      .00      .00      .00      .00      .00      .00      .00      .00
FCRR      .00      .00      .00      .00      .00      .00      .00      .00
FCRP      65.86%   .00%   .00%   .00%   .00%   .00%   .00%   .00%
FCUT      2.92     1.00     1.00     1.00     1.00     1.00     1.00     1.00
.
.
.   Use FLD= keyword to specify plot field,
.
.       FCRR FCIR FCRP FCUT  FIRR FIRR FIRP FIUT
FCPL FLD=FCIR
+ FILE NAME      I/O RATE  ...10...20...30...40...50...60...70...80...90...100
+ APPLDICT.DICTDB      .00  ....|...|...|...|...|...|...|...|...|...|...|
+ APPLDICT.DLODDB      .00  ....|...|...|...|...|...|...|...|...|...|...|
+ CATSYS.DCCAT         .00  ....|...|...|...|...|...|...|...|...|...|...|
+ CATSYS.DCCATL        .00  ....|...|...|...|...|...|...|...|...|...|...|
+ CATSYS.DCCATX        .00  ....|...|...|...|...|...|...|...|...|...|...|
+ DBOLDICT.DBOLDML     .00  ....|...|...|...|...|...|...|...|...|...|...|

```

These line commands are used with the FILEPLOT screen:

Line Commands	Description
IDMS	PreAlert Interface
FCSL	File Selection Keywords
FCNM	File Name
FCIR	Page I/O Rate

Line Commands	Description
FCRR	Record Request Rate
FCRP	Reads Found in Buffer Percent
FCUT	Buffer Utilization Ratio

FCHL

Select the FCHL screen, shown in [Figure 67](#), from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM3 screen). This screen displays file statistics in a horizontal format by using the FCHL line command.

Figure 67 • FCHL screen

```

SPF COMMAND ==>
COMMAND:          FCHL          10:38:46.7  96.187  69.00% .TUT for Tutorial
.                  IDMS Files, horizontal display
IDMS IDMS2        V2          IDMS INTERFACE ACTIVE  TASKS:  14    .00/SEC
.  Use FCSL selection parms to select files for display.
FCSL SRT=FCNM
.  Specify 1, 2, 3, 4, or 5 for the FCHL display format number.
FCHL 1 1/5
+ DDname  VOLSER  Status  Type  Buffer
+ APPLDICT.DICTDB      DICTDB  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ APPLDICT.DLODDB      DLODDB  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ CATSYS.DCCAT        DCCAT   DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ CATSYS.DCCATL       DCCATL  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ CATSYS.DCCATX       DCCATX  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ DBOLDICT.DBOLDML    DBOLDML  PROD01  UPDATE  BDAM  DBOL_BUFFER
+ DBOLDICT.DBOLLOD    DBOLLOD  DBS001  UPDATE  BDAM  DBOL_BUFFER
+ DBOLTEST.DBOLFILE   DBOLFILE  DBS004  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO.EMPDEMO     EMPDEMO  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO.INSDEMO     INSDEMO  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO.ORGDEMO     ORGDEMO  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO1.EMPDEMO1   EMPDEMO1 DBS006  UPDATE  BDAM  DEFAULT_BUFFER

```

These line commands are used with the FCHL screen:

Line Commands	Description
IDMS	PreAlert Interface
FCSL	File Selection Keywords
FCHL	File Data, Horizontal Format

The FCHL line command displays five different formats. See ["File Horizontal Display" on page 245](#) for further information on the FCHL line command.

JRNLDEFN

Select the JRNLDEFN screen from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM3 screen). Shown in [Figure 68](#), this screen displays the status of all journals and the histogram for user PUT journal requests.

Figure 68 • JRNLDEFN screen

COMMAND: JRNLDEFN 8:44:25.3 93.173 96.50% .TUT FOR TUTORIAL									
IDMS	IDMS12G	V120	IDMS	INTERFACE	ACTIVE	TASKS:	14	.00/SEC	
JRNL	J1JRNL	J2JRNL	SYSJRNL						
JRST	.A	..	CLOSED						
JRPT	5000	5000	0						
JRPU	198	0	0						
JRVS	SCR001	SCR001							
JRXL	1172	0	1191	10					
JRXH	1191	9	1211	4					
=====									
HSJR SIZE USER PUT JOURNAL REQUESTS									
+	0-	99=	0	|	100-	199=	0	|	200-
+	300-	399=	0	|	400-	499=	0	|	500-
+	600-	699=	0	|	700-	799=	0	|	800-
+	900-	999=	0	|	1000-	1099=	0	|	1100
=====									
. Journal Buffer statistics									
CSJB	JOURNAL	WAITS	PAGES	WRITTEN	1-10--20--30--40--50--60--70--80--90-100%				
+	0	.47	11	2	2	2	83		
SSJB	JOURNAL	BUFFER	STATISTICS	CURRENT	PREVIOUS	DELTA	RATE		
+	WAITS	FOR	JOURNAL	BUFFER	0	0	0	.00	
+	JOURNAL	PAGES	WRITTEN	47	47	0	.00		
+	PAGES	WRITTEN,	1-10% FULL	5	5	0	.00		
+	PAGES	WRITTEN,	11-20% FULL	0	0	0	.00		

These line commands are used with the JRNLDEFN screen:

Line Commands	Description
IDMS	PreAlert Interface
JRNL	Journal Name
JRST	Journal Status
JRPT	Journal Pages Allocated
JRPU	Journal Pages Used
JRVS	Disk VOLSER where Journal Resides
JRXL	Low Cylinder and Head for First Journal Extent
JRXH	High Cylinder and Head for First Journal Extent
=====	Line Separator / Auto-repeat

Line Commands	Description
HSJR	Histogram, User Put Journal Requests
CSJB	Current Journal Buffer Statistics
SSJB	System Statistics, Journal Buffer

See ["Journal Definitions" on page 277](#) for more information on the journal display line commands. Also, see ["IDMS CV Internals" on page 289](#) for more information on the histograms and journal buffer statistics.

PRODDB

Select the PRODDB screen, shown in [Figure 69](#), from the IDMS Database/Buffer/File/Journal Definitions Menu (on the IDMSM3 screen). The PRODDB screen displays database areas, buffers, and journal definitions.

Figure 69 • PRODDB

COMMAND: PRODDB 8:48:22.9 93.060 101.28% .TUT FOR TUTORIAL									
. Displays Database Areas, Buffers, and Journal Status.									
. Use .RIGHT nn or appropriate PF key to view remaining data to right.									
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS:	24	7.33/SEC	
=====									
DBSL REP=N									
DBNM	DDLDM1	DDLDCMSG	DDLDCLOD	DDLDCLOG	DDLDCRUN	DDLDCSCR	DDLDCQUE	IDMSR-AR	+
+								EA	
DBST	RETRVAL	RETRVAL	RETRVAL	RETRVAL	UPDATE	UPDATE	UPDATE	UPDATE	
DBTP	IDMS DB	IDMS DB	IDMS DB	IDMS DB	IDMS DB	IDMS DB	IDMS DB	IDMS DB	IDMS-EXT
DBSC	SCHMDICT	SCHMDICT	SCHMDICT	SCHMDICT	SCHMDICT	SCHMDICT	SCHMDICT	SCHMDICT	SCHMDICT
DBLP	1	100001	110001	150001	171001	172001	175001	200001	
DBHP	100000	105000	130000	163500	172000	175000	178000	200500	
=====									
BFSL REP=N									
BFFR	GENERAL-	SCRATCH-	BUF4084	BUF4276	BUF7476	BUF23476	BUF15476	BUF15476	+
+	BUFFER	BUFFER						A	
BFPG	10/ 10	10/ 10	100/100	10/ 10	80/ 80	20/ 20	40/ 40	80/ 80	
BFSZ	4084	4084	4084	4276	7476	23476	15476	15476	
=====									
JRNL	SYSJRNL1	SYSJRNL2	SYSJRNL3	SYSJRNL4	SYSJRNL5	SYSJRNL6	SYSJRNL		
JRST	.A .	.. .	.. .	.. .	.. .	.. .	CLOSED		
JRPT	12000	12000	12000	12000	12000	12000	0		
JRPU	9609	0	0	0	0	0	0		

These line commands are used with the PRODDDB screen:

Line Commands	Description
IDMS	PreAlert Interface
DBSL	Database Area Selection Keywords
DBNM	Area Name
DBST	Area Status
DBTP	Area Type
DBSC	Schema Name
DBLP	Low Page Number
DBHP	High Page Number
====	Line Separator / Auto-repeat
BFSL	Buffer Selection Keywords
BFFR	Buffer Name
BFPG	Pages Allocated/Used
BFSZ	Page Size
====	Line Separator / Auto-repeat
JRNL	Journal Name
JRST	Journal Status
JRPT	Journal Pages Allocated
JRPU	Journal Pages Used

MENU IDMSM4

Select MENU IDMSM4, shown in [Figure 70](#), from the PreAlert/IDMS Interface Primary Menu to display the PreAlert/IDMS Interface Task & Program Definitions Menu.

Figure 70 • PreAlert/IDMS Interface Task & Program Definitions Menu

```

COMMAND:_____IDMSM4      13:57:49.0  93.060 100.06% .TUT FOR TUTORIAL
.
.      PreAlert / IDMS Interface
.      Task & Program Definitions
.
.
MENU PROGDEFN :      PROGRAM DEFINITIONS, SELECTED BY PROGRAM NAME
MENU PROGDEF1 :      STATISTICS FOR LOADED ADS/O DIALOGS
MENU PROGDEF2 :      STATISTICS FOR LOADED COBOL PROGRAMS
.
MENU TASKDEFN :      TASK DEFINITIONS, SELECTED BY TASK CODE / PROG NAME
.
MENU ATPR      :      ACTIVE TASKS, WITH RELATED PROGRAM DEFINITIONS
MENU ATTK      :      ACTIVE TASKS, WITH RELATED TASK DEFINITIONS
.
.
.
.
.
.
.
.
.      Position the cursor on the desired MENU name, and press ENTER.
.

```

Menu references may be added or deleted by editing the IDMSM4 member of the PreAlert help file.

The menu options ATPR and ATTK also appear on the PreAlert Active Task & Run Unit Menu and have been documented in ["MENU IDMSM1" on page 68](#).

The menu options PROGDEFN, PROGDEF1, PROGDEF2, and TASKDEFN are described and illustrated in the text that follows.

PROGDEFN

Select the PROGDEFN screen from the IDMS Task & Program Definition Menu (on the IDMSM4 screen). The PROGDEFN screen, shown in [Figure 71](#), displays program definitions selected by program name.

Figure 71 • PROGDEFN screen

COMMAND: _____ PROGDEFN 13:58:15.4 93.060 99.31% .TUT FOR TUTORIAL									
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS:	21	5.17/SEC	
.	Use the PNM= keyword to select specific program definitions for								
.	display. An asterisk (*) is used as a mask character.								
.									
PRSL	PNM=AAA*,IDMSNWK*								
PRNM	IDMSNWK1	IDMSNWK2	IDMSNWK3	IDMSNWK4	IDMSNWK5	IDMSNWK6	IDMSNWK7	IDMSNWK8	IDMSNWK9
PRTT	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA
PRGS	ENA/LOAD	ENA/LOAD	ENA/OUT	ENA/OUT	ENA/OUT	ENA/OUT	ENA/OUT	ENA/OUT	ENA/LOAD
PRSZ	11448	73624	0	0	0	0	0	0	18832
PRCC	253	425	0	0	0	0	0	0	189
PRLC	1	1	0	0	0	0	0	0	1
=====									
PRNM	IDMSNWK1	IDMSNWK2	IDMSNWK3	IDMSNWK4	IDMSNWK5	IDMSNWK6	IDMSNWK7	IDMSNWK8	IDMSNWK9
PRTT	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA	SUBSCHMA
PRGS	ENA/OUT	ENA/OUT	ENA/OUT	ENA/OUT	ENA/OUT	ENA/OUT	ENA/OUT	ENA/OUT	ENA/OUT
PRSZ	0	0	0	0	0	0	0	0	3768
PRCC	0	0	0	0	0	0	0	0	4
PRLC	0	0	0	0	0	0	0	0	1
=====									
7 LINE(S) REPEATED =====									

These line commands are used with the PROGDEFN screen:

Line Commands	Description
IDMS	PreAlert Interface
PRSL	Program Definition Selection Keywords
PRNM	Program Name
PRTT	Program Type
PRGS	Program Status
PRSZ	Program Size
PRCC	Called Count
PRLC	Loaded Count
=====	Line Separator / Auto-repeat

Select program definition by program name using the PNM= selection keywords. For further information, see ["Program Definitions" on page 211](#).

PROGDEF1

Select the PROGDEF1 screen from the IDMS Task & Program Definition Menu, screen IDMSM4. The PROGDEF1 screen, shown in [Figure 72](#), displays program definitions for loaded ADS/O dialogs.

Figure 72 • PROGDEF1 screen

```

COMMAND:_____ PROGDEF1 13:58:28.4 93.060 99.62% .TUT FOR TUTORIAL
IDMS IDMSDC1 V1 IDMS INTERFACE ACTIVE TASKS: 21 5.17/SEC
. Use the PNM= keyword to select specific program definitions for
. display. An asterisk (*) is used as a mask character.
.
PRSL TYP=O,RES=I
PRNM ADSO@ML$ PACDA213 PACDI201 PACDI204 PACDI026 PACDI158 PACDI159 PACDI161 +
PRTPT ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN
PRGS ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD
PRSZ 448 28184 23316 20284 12484 16456 12984 3820
PRCC 1149 20 4 2 211 95 459 48
PRLC 1 6 1 1 1 28 45 33
=====
PRNM PACDI162 PACDI165 PACDI205 MCBDI222 MCBDI227 MCBDI236 MCBDI249 MCBDU200 +
PRTPT ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN
PRGS ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD
PRSZ 10992 8068 27556 6256 11304 11900 7236 8028
PRCC 1108 3965 23 2 65 5 8 26
PRLC 73 35 6 1 17 2 6 5
=====
7 LINE(S) REPEATED=====
PRNM MCBDU202 MCBDU216 MCBDU230 MCBDU231 MCBDU232 MCBDU240 MCBDU251 MCBDU260 +
PRTPT ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN
PRGS ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD
PRSZ 12844 6488 16332 16484 22568 16740 16864 16328
PRCC 12 2 40 42 32 26 25 36
PRLC 7 2 8 10 6 8 6 12

```

These line commands are used with the PROGDEF1 screen:

Line Commands	Description
IDMS	PreAlert Interface
PRSL	Program Definition Selection Keywords
PRNM	Program Name
PRTPT	Program Type
PRGS	Program Status
PRSZ	Program Size

Line Commands	Description
PRCC	Called Count
PRLC	Loaded Count
====	Line Separator / Auto-repeat

With Auto-repeat active, PreAlert will automatically execute the PRNM through PRLC line commands to display all Program definitions. Use the PF7 and PF8 keys to scroll up and down through the display.

To display only specific program definitions, use the PNM= selection keyword with the PRSL line command. For further information, see the ["Program Definitions" on page 211](#).

PROGDEF2

Select the PROGDEF2 screen from the IDMS Task & Program Definition Menu (on the IDMSM4 screen). The PROGDEF2 screen, shown in [Figure 73](#), displays program definitions for loaded COBOL programs.

Figure 73 • PROGDEF2 screen

```

COMMAND: _____ PROGDEF2 13:58:40.7 93.060 103.62% .TUT FOR TUTORIAL
IDMS IDMSDC1 V1 IDMS INTERFACE ACTIVE TASKS: 21 5.17/SEC
. Use the PNM= keyword to select specific program definitions for
. display. An asterisk (*) is used as a mask character.
.
PRSL TYP=C, RES=I
PRNM CAISDATE CAISSEC TBLCI500 CASPEEDIT CASPSECA CASPVZIP CSYPDCAL CSYPGNUM +
PRTT COBOL COBOL COBOL COBOL COBOL COBOL COBOL COBOL COBOL
PRGS ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD
PRSZ 9424 7440 100944 30064 10808 7056 30904 14112
PRCC 3909 55 14330 183 211 1 7253 1375
PRLC 7 1 63 102 18 1 146 1
=====
PRNM CSYPSECM CHRPCVRT CARPAUTO CARPCAGE CARPDCAL CARPGNUM CARPRIDB CARPVNUM +
PRTT COBOL COBOL COBOL COBOL COBOL COBOL COBOL COBOL COBOL
PRGS ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD
PRSZ 27944 5744 59144 32512 30104 11248 39552 11488
PRCC 2929 96 69 279 23898 63 100 953
PRLC 58 1 27 13 119 2 25 1
=====
===== 7 LINE(S) REPEATED =====
PRNM CARPCALS CARPIMBS CARPGLPA GA3CI095 DBACI010 MBSPGLIN MBSPRIDB MMFCUATH
PRTT COBOL COBOL COBOL COBOL COBOL COBOL COBOL COBOL
PRGS ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD
PRSZ 9552 12312 30928 82256 11304 28328 46536 17296

```

These line commands are used with the PROGDEF2 screen:

Line Commands	Description
IDMS	PreAlert Interface
PRSL	Program Definition Selection Keywords
PRNM	Program Name
P RTP	Program Type
PRGS	Program Status
PRSZ	Program Size
PRCC	Called Count
PRLC	Loaded Count
====	Line Separator / Auto-repeat

TASKDEFN

Select the TASKDEFN screen from the IDMS Task & Program Definition Menu (on the IDMSM4 screen). The TASKDEFN screen, shown in [Figure 74](#), displays task definitions selected either by task code or program name.

Figure 74 • TASKDEFN screen

```

COMMAND:_____TASKDEFN 13:58:53.8 93.060 98.81% .TUT FOR TUTORIAL
IDMS IDMSDC1 V1 IDMS INTERFACE ACTIVE TASKS: 21 5.17/SEC
. Use the TCD= keyword to select specific task definitions for
. display. An asterisk (*) is used as a mask character.
.
TKSL TCD=DCMT*
TKCD DCMT
TKPN RHDCMT00
TKST ENA/EXT
TKCT 920
=====
.
. Use the PGM= keyword to select task codes based on the program
. name invoked by the task code.
.
TKSL PGM=ADSORUN*
TKCD CMSTRACK CPEJUMP CPYJUMP TUTORIAL TBLMENU BRFMENU IMPTELE TGLDI001 +
TKPN ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1
TKST ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT
TKCT 0 0 0 0 0 0 0 0
=====
TKCD CONVERPR LISTBC PACFCINQ PACCLINQ PACROW PACSTAT MCBMENU TGLRPT +
TKPN ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1
TKST ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT
TKCT 0 0 55 7 0 0 14 2
===== 5 LINE(S) REPEATED =====

```

These line commands are used with the TASKDEFN screen:

Line Commands	Description
IDMS	PreAlert IDMS Interface
TKSL	Task definition Selection Keywords
TKCD	Task Code
TKPN	Program Name
TKST	Task Status
TKCT	Called Count
====	Line Separator / Auto-repeat

The TCD= and PGM= selection keywords are used with the TKSL line command to select task definitions by task code or program name. For further information, see ["Task Definitions" on page 205](#).

MENU IDMSM5

Select the MENU IDMSM5 screen to display the PreAlert/IDMS-DC Terminal & Line Definitions Menu, shown in [Figure 75](#), from the PreAlert/IDMS Interface Primary Menu.

Figure 75 • PreAlert/IDMS-DC Terminal & Line Definitions Menu

```

COMMAND:_____IDMSM5      13:59:37.1  93.060  98.68% .TUT FOR TUTORIAL
.
.      PreAlert / IDMS Interface
.      IDMS-DC Terminal & Line Definitions
.
.
MENU LINEDEFN :      IDMS-DC PHYSICAL LINE STATISTICS
.
MENU TERMDEFN :      IDMS-DC PHYSICAL TERMINAL STATISTICS
MENU TERMUSE  :      IDMS-DC LOGICAL TERMINAL USAGE
.
MENU ATTR      :      ACTIVE TASKS, WITH RELATED TERMINAL STATISTICS
.
.
.
.
.
.
.
.
.
.      Position the cursor on the desired MENU name, and press ENTER.
.

```

Menu references may be added or deleted by editing the IDMSM5 member of the PreAlert help file.

The menu option ATTR also appears on the PreAlert Active Task & Run Unit Menu. This option is documented under ["MENU IDMSM1" on page 68](#).

The menu options LINEDEFN, TERMDEFN, and TERMUSE of the IDMS-DC Terminal & Line Definitions Menu are described and illustrated in the text that follows.

LINEDEFN

Select the LINEDEFN screen from the IDMS Terminal & Line Definitions Menu (on the IDMSM5 screen). The LINEDEFN screen, shown in [Figure 76](#), displays IDMS-DC line definitions selected by line type.

Figure 76 • LINEDEFN screen

```

COMMAND: LINEDEFN 13:59:44.0 93.060 98.37% .TUT FOR TUTORIAL
IDMS IDMSDC1 V1 IDMS INTERFACE ACTIVE TASKS: 21 5.17/SEC
. UCF and VTAM lines are selected thru the AMS=U,V parms.
LISL AMS=U,V
LINE UCFLINE VTAM VTAMTARS
LITP UCF /UCF VTAM/VTM VTAM/VTM
LIST INSERV INSERV INSERV
LITR 4 200 50
LIRC 1059 80075 5097
LIRE 0 37 2
LIWC 8061 82434 5354
LIWE 0 2 2
LIAP GHAIM01 GHAIM10
LINR 1/ 20 1/ 10
. Response Time Histograms for the selected Line Definitions.
LIHS HISTOGRAM NOT AVAILABLE
LIHS HISTOGRAM NOT AVAILABLE
LIHS HISTOGRAM NOT AVAILABLE
LIHS
LIHS
LIHS
LIHS
LIHS

```

These line commands are used with the LINEDEFN screen:

Line Commands	Description
IDMS	PreAlert Interface
LISL	Line Definition Selection Keywords
LINE	Line ID
LITP	Line Type

Line Commands	Description
LIST	Line Status
LITR	Number of Terminals
LIRC	Read Count
LIRE	Read Errors Count
LIWC	Write Count
LIWE	Write Errors Count
LIAP	VTAM Appl ID
LINR	VTAM NIB/RPL Count
LIHS	Response Time Histogram

The AMS= selection keyword is used with the LISL line command to select IDMS-DC Line definitions by access method type. For further information, see ["Line Definitions" on page 279](#).

TERMDEFN

Select the TERMDEFN screen from the IDMS Terminal & Line Definitions Menu (on the IDMSM5 screen). The TERMDEFN screen, shown in [Figure 77](#), displays terminal definitions selected by access method (i.e., UCF or VTAM).

Figure 77 • TERMDEFN screen

```

COMMAND:          TERMDEFN   13:59:59.6  93.060  99.06% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1        IDMS INTERFACE ACTIVE  TASKS:  21   5.17/SEC
.      UCF Terminal Definitions are selected through the AMS=U parameter.
TRSL AMS=U,REP=N
TRPT UCFPT01  UCFPT02  UCFPT03  UCFPT04
TRST  IN/DIS   IN/DIS   IN/DIS   IN/DIS
TRUS
TRUT
TRUI
TRUP
TRRC          619        342         80         18
TRWC          6335       1381        287         58
=====
.      VTAM Terminal Definitions are selected through the AMS=V parameter.
TRSL AMS=V,REP=N
TRPT DCPTE001 DCPTE002 DCPTE003 DCPTE004 DCPTE005 DCPTE006 DCPTE007 DCPTE008 +
TRVN GVC0350I GHADA00K GNC04506 GV11040T GR01051S GNB0740H GHJDC003 GVB1340U
TRST * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON
TRUI MBH8478  DETPPFI  VSW9997  RVM7806  DSW5984  JCS3791  EGL2988  DSD4702
TRRC          854         582         643         854         659         828         733         543
TRWC          885         615         672         882         686         849         762         572
=====

```

These line commands are used with the TERMDEFN screen:

Line Commands	Description
IDMS	PreAlert Interface
TRSL	Terminal Definition Selection Keywords
TRPT	Physical Terminal ID
TRST	Terminal Status
TRUI	User ID
TRUP	User Priority
TRRC	Read Count
TRWC	Write Count
====	Line Separator / Auto-repeat
TRUS	UCF Front End System ID
TRUT	UCF Front End Terminal ID
TRVN	VTAM Terminal Name (Logical Unit ID)

The AMS= selection keyword is used with the TRSL line command to select terminal definitions by access method type (i.e., UCF or VTAM). Refer to ["Terminal Definitions" on page 283](#) for additional selection keywords.

TERMUSE

Select the TERMUSE screen from the IDMS Terminal & Line Definitions Menu (on the IDMSM5 screen). The TERMUSE screen, shown in [Figure 78](#), displays a summary of logical terminal usage.

Figure 78 • TERMUSE screen

```

COMMAND:_____TERMUSE      14:00:20.1  93.060 109.68% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE   TASKS:  21   5.17/SEC
.      L-term Usage by line ID.
PLES  CONSOLE  LTERM COUNT =      1  USERS =      0  USED =      0
+      UCFLINE  LTERM COUNT =      4  USERS =      0  USED =      4
+      VTAM     LTERM COUNT =     200  USERS =     145  USED =     164
+      S3270Q1  LTERM COUNT =      1  USERS =      0  USED =      1
+      VTAMTARS LTERM COUNT =     50  USERS =      8  USED =     24
+      JESRDR   LTERM COUNT =      1  USERS =      0  USED =      1
+      *TOTAL*  LTERM COUNT =     257  USERS =     153  USED =     194
.      USE=Y to select 'used' logical terminals.
TRSL  USE=Y
TRPT  UCFPT01  UCFPT02  UCFPT03  UCFPT04  DCPTE001  DCPTE002  DCPTE003  DCPTE004 +
TRST  IN/DIS   IN/DIS   IN/DIS   IN/DIS   * IN/CON  * IN/CON  * IN/CON  * IN/CON
TRUI                                     MBH8478  DETPPFI  VSW9997  RVM7806
=====
TRPT  DCPTE005  DCPTE006  DCPTE007  DCPTE008  DCPTE009  DCPTE010  DCPTE011  DCPTE012 +
TRST  * IN/CON  * IN/CON  * IN/CON  * IN/CON  * IN/CON  * IN/CON  * IN/CON  * IN/CON
TRUI  DSW5984  JCS3791  EGL2988  DSD4702  CJH3977  DLLPDEI  JARGSYA  DJB3754
=====
TRPT  DCPTE013  DCPTE014  DCPTE015  DCPTE016  DCPTE017  DCPTE018  DCPTE019  DCPTE020 +
TRST  * IN/CON  * IN/CON  * IN/CON  * IN/CON  * IN/CON  * IN/CON  * IN/CON  * IN/CON
TRUI  SMR2920  SDR7203  PAWGGPI  BLW5983  JMCDFI  KET3411  MAYPCSI  JACGSYA
=====
===== 4 LINE(S) REPEATED =====
===== 4 LINE(S) REPEATED =====

```

These line commands are used with the TERMUSE screen:

Line Commands	Description
IDMS	PreAlert Interface
PLES	Logical Terminal Usage by Line (PLE)
TRSL	Terminal Definition Selection Keywords
TRPT	Physical Terminal ID
TRST	Terminal Status
TRUI	User ID
=====	Line Separator / Auto-repeat

The PLES line command displays a summary of logical terminal usage. See ["Logical Terminal Usage" on page 318](#) for further information.

MENU IDMSM6

Select MENU IDMSM6, shown in [Figure 79](#), from the PreAlert/IDMS Interface Primary Menu to display the PreAlert/IDMS Interface Additional Features Menu.

Figure 79 • PreAlert/IDMS Interface Additional Features Menu

```

COMMAND:_____IDMSM6      14:01:19.3  93.060 102.87% .TUT FOR TUTORIAL
.
.      PreAlert / IDMS Interface
.      Additional Features MENU
.
.
MENU IDMSMMAP :      DISPLAY MEMORY MAP
MENU IDMSDUMP :      DISPLAY/MODIFY MEMORY
.
MENU IDMSABND :      ABEND AN ACTIVE TASK
MENU IDMSABNZ :      ABEND AN ACTIVE TASK VIA MZAP
.
MENU IDMSVARY :      VARY SELECTED ELEMENTS WITHIN THE CV
MENU IDMSCOMD :      ISSUE IDMS COMMANDS VIA OPERATOR CONSOLE
.
MENU IDMSMLOG :      REQUEST STATISTICS LOGGING
.
MENU IDMSRCES :      DISPLAY HELD RESOURCES
MENU IDMSTTRC :      DISPLAY IDMS TRACE TABLE
.
.
.      Position the cursor on the desired MENU name, and press ENTER.
.

```

Menu references may be added or deleted by editing the IDMSM6 member of the PreAlert help file.

The menu options of the PreAlert Additional Features Menu are described and illustrated in the text that follows.

IDMSMAP

Select the IDMSMAP screen from the IDMS Additional Features Menu (on the IDMSM6 screen). The IDMSMAP screen, shown in [Figure 80](#), displays the IDMS memory map and virtual storage.

Figure 80 • IDMSMAP screen

COMMAND: _____ IDMSMAP 14:01:32.9 93.060 112.62% .TUT FOR TUTORIAL									
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS:	21	5.17/SEC	
MMAP	RHDCOS00	00015800	DMCPRD	0002C008	IDMSDBIO	0004865C	IDMSDBMS	0005C80C	
+	OPT	0006F810	CCE	0006FB80	XTA	0006FE30	SCAAREA	00071420	
+	RUA	000724F0	CSA	00072EF0	NLT	0007B360	DDT	0007C440	
+	LTT	0007C480	PTT	0008C5B8	QDT	000A4C00	TDT	000A4D00	
+	PDT	000ADEE0	TRCEBUFS	002AE000	TCA	002AE020	DCEAREA	002AE040	
+	TCEAREA	002AED00	MPMODTBL	002E84A0	ECBLIST	002E8940	RCA	002E9100	
+	RLEAREA	002E9160	RCEAREA	002FCDC8	DPEAREA	003211D0	ILEAREA	00325B98	
+	SCT	00326440	CSV CAREA	0032BEC0	PGMPOOL	0032F000	RENTPOOL	003AF000	
+	RHDCD04W	0042B600	RHDCD0ZU	0042BC00	RHDCD05V	0042D400	RHDCD03Q	00430600	
+	RHDCD07Q	00432800	RHDCRUSD	00432E00	RHDCLGSD	00433600	PMONCIOD	00434000	
+	PMONCROL	0043A600	STGPOOL	00517000	XALODBUF	00848000	ABENDSTG	00850000	
+	HIADDR	008504B0	ESE	00BB0270	EREAREA	00BB2010	SVC243	00FCE690	
+	XARENTPL	04561000	XASTGPL	05961000					
IDCB									
ADDR									
DUML	DUMP ASID	200/IDMSDC1	ADDRESS:	00072EF0					
DUMH	ADDRESS	+0.....3	+4.....7	+8.....B	+C.....F	*---E B C D I C--*			
DUMH	00072EF0	+000	47F0F9EE	00000000	00000000	00000000	* 09		*
DUMH	00072F00	+010	00000000	00000000	00000000	00000000	*		*
DUMH	00072F10	+020	00000000	00000000	00000000	00000000	*		*
DUMH	00072F20	+030	00000000	00000000	47F0A858	07FF0000	*	0Y	*
DUMH	00072F30	+040	96401000	91401000	00000001	00040008	*O J		*

These line commands are used with the IDMSMAP screen:

Line Commands	Description
IDMS	PreAlert Interface
MMAP	IDMS Memory Map
IDCB	IDMS Memory Display, Control Block ID
ADDR	Specify Storage Address for Display
DUML	Storage ASID/Jobname and Address
DUMH	Storage Display Header
DUMP	Storage Display, 16 bytes per line command

To display a specific control block, enter the control block name in the IDCB line command or enter the address in the ADDR line command. See also, ["Memory Map Display" on page 290](#).

IDMSDUMP

Select the IDMSDUMP screen from the IDMS Additional Features Menu (on the IDMSM6 screen). The IDMSDUMP screen, shown in [Figure 81](#), allows you to display and modify (zap) IDMS memory.

Figure 81 • IDMSDUMP screen

```

COMMAND:_____IDMSDUMP  14:01:48.7  93.060 103.37% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS: 21  5.17/SEC
.      Use the IDCB line command to specify the control block name,
.      then the ADDR line command to adjust the address. The resulting
.      address will be displayed in the DURL line command along with
.      the jobname and ASID for the IDMS-CV. The memory display (DUMP)
.      and modifications (MZAP) will begin at that address.
IDCB
ADDR
DURL DUMP ASID    200/IDMSDC1    ADDRESS:00072EF0
MZAP
DUMH  ADDRESS      +0.....3 +4.....7 +8.....B +C.....F  *---E B C D I C--*
DUMP 00072EF0 +000  47F0F9EE 00000000 00000000 00000000  * 09 *
DUMP 00072F00 +010  00000000 00000000 00000000 00000000  * *
DUMP 00072F10 +020  00000000 00000000 00000000 00000000  * *
DUMP 00072F20 +030  00000000 00000000 47F0A858 07FF0000  * 0Y *
DUMP 00072F30 +040  96401000 91401000 00000001 00040008  *O J *
DUMP 00072F40 +050  003C0618 003E3620 003E38F8 003E8060  * 8 -*
DUMP 00072F50 +060  003E8114 003E7E64 003E81A0 003EA568  * A = A V *
DUMP 00072F60 +070  003EAFFC 00404A18 00404BCC 00405818  * [ . *
DUMP 00072F70 +080  003C2CA0 0004865C 0005C80C 003C3E18  * F* H *
DUMP 00072F80 +090  003B5E18 003C5818 00000000 003C20A8  * ; Y*
DUMP 00072F90 +0A0  00416418 003C2984 00415A18 003C3090  * D ! *
DUMP 00072FA0 +0B0  00416AB4 00407818 00407BE8 003E2E18  * #Y *

```

These line commands are used with the IDMSDUMP screen:

Line Commands	Description
IDMS	PreAlert Interface
IDCB	IDMS Memory Display, Control Block Name
ADDR	Specify Storage Address for Display
DURL	Storage ASID/Jobname and Address
MZAP	Modify (zap) Storage
DUMH	Storage Display Header
DUMP	Storage Display, 16 bytes per line command

See also ["Displaying Virtual Storage" on page 56](#).

IDMSABND

Select the IDMSABND screen from the IDMS Additional Features Menu (on the IDMSM6 screen). The IDMSABND screen, shown in [Figure 82](#), allows you to abend an active task by using the IVRY line command.

Figure 82 • IDMSABND screen

```

COMMAND:_____IDMSABND   14:02:05.3   93.060 108.68% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE   TASKS:  21   5.17/SEC
.   This screen is used to Abend an active task.
ATSL TYP=UE,REP=N
ATID  102900   102899   102881   102898
ATCD ADS2      ADS2      *ERUS*   ADS2
ATPN ADSOMAIN ADSOMAIN PACCU245 ADSOMAIN
=====
.   Enter TID=nnn,CAN=Y to cancel a task, nnn is the task id (ATID).
IVRY
.
.   The IVRY cancel task function sets the TCERQAB bit in the Task Control
.   Element (TCE) for the task. This bit is interrogated by the IDMS
.   dispatcher to Abend the task. If IDMS is in a tight loop and the
.   dispatcher is not being entered, the task may not be abended.
.

```

These line commands are used with the IDMSABND screen:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
=====	Line Separator / Auto-repeat
IVRY	IDMS Vary Line Command

The TID= and CAN= keywords are used with the IVRY line command to set the TCERQAB bit in the TCE for the specified task ID. This requests that the task be abended. Occasionally, CAN=1 or CAN=2 may be required to set the TCEABIN or TCERNWY bits in the TCE.

Refer to ["IDMS Vary Line Command" on page 329](#) for more information on the IVRY line command.

IDMSABNZ

Select the IDMSABNZ screen from the IDMS Additional Features Menu. The IDMSABNZ screen, shown in [Figure 83](#), allows you to abend an active task using the MZAP line command.

Figure 83 • IDMSABNZ screen

```

COMMAND:_____ IDMSABNZ 14:02:30.3 93.060 116.81% .TUT FOR TUTORIAL
IDMS IDMSDC1 V1 IDMS INTERFACE ACTIVE TASKS: 21 5.17/SEC
. This screen is used to Abend an active task using the MZAP line command
. 1. In IDCB type TCE=task id and press ENTER. PreAlert will locate and
. and display the Task Control Element (TCE) for the task. The DUMP
. display will begin with the first byte of the TCE.
. 2. In ADDR type +87 and press ENTER. PreAlert will adjust the DUMP
. display to the TCEFLAG4 byte in the TCE. When the first bit (x'80')
. of TCEFLAG4 is turned on, IDMS will Abend the task.
. 3. In MZAP type VER=xx,REP=yy and press ENTER; xx is the current
. contents of TCEFLAG4, and yy is the replace value (xx with the
. first bit turned on).
ATSL TYP=UE,REP=N
ATID 102900 102899 102881 102898
ATCD ADS2 ADS2 *ERUS* ADS2
ATPN ADSOMAIN ADSOMAIN PACCU245 ADSOMAIN
=====
IDCB
ADDR
DUML DUMP ASID 200/IDMSDC1 ADDRESS:00072EF0
MZAP
DUMH ADDRESS +0.....3 +4.....7 +8.....B +C.....F *---E B C D I C---*
DUMP 00072EF0 +000 47F0F9EE 00000000 00000000 00000000 * 09 *
DUMP 00072F00 +010 00000000 00000000 00000000 00000000 * *
```

These line commands are used with the IDMSABNZ screen:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
====	Line Separator / Auto-repeat
IDCB	IDMS Memory Display, Control Block Name
ADDR	Specify Storage address for display
DUML	Storage Display ASID/Jobname and Address
MZAP	Modify (zap) Storage
DUMH	Storage Display Header
DUMP	Storage Display, 16 bytes per line command

Request a Task Abend

- For the IDCB command, type `TCE=task ID` and press Enter. PreAlert locates and displays the Task Control Element (TCE) for the task. The DUMP display begins with the first byte of the TCE.
- For the ADDR command, type `+87` and press Enter. PreAlert will adjust the DUMP display to the TCEFLAG4 byte in the TCE. When the first bit (x'80') of TCEFLAG4 is turned on, the IDMS dispatcher requests the Task Abend. If IDMS is in a tight loop and the dispatcher is not being entered, the task may not be abended.
- For the MZAP command, type `VER=xx, REP=yy` and press Enter. In this command syntax, `xx` is the current contents of TCEFLAG4, and `yy` is the replace value (`xx` with the first bit turned on).

IDMSVARY

Select the IDMSVARY screen from the IDMS Additional Features Menu (on the IDMSM6 screen). The IDMSVARY screen, shown in [Figure 84](#), allows you to dynamically vary selected elements within the IDMS CV by using the IVRY line command.

Figure 84 • IDMSVARY screen

```

COMMAND:_____IDMSVARY   14:02:43.0  93.060 110.12% .TUT FOR TUTORIAL
.   Alter IDMS using the Vary Line Command.
.
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE   TASKS:  21   5.17/SEC
ATSL TYP=UE,REP=N
ATID  102900   102899   102881   102898
ATCD ADS2      ADS2      *ERUS*   ADS2
ATPN ADSOMAIN ADSOMAIN PACCU245 ADSOMAIN
=====
IVRY
.
.   IVRY Keywords:
.
.   TID=nnn,CAN=Y      Cancel an Active Task
.   TID=nnn,PRI=nnn    Reset Dispatching Priority
.   TCD=taskcode,PRI=nnn Reset Task Dispatching Priority
.   TCD=taskcode,ENA=Y/N Enable/Disable Task Definition
.   PGM=program,ENA=Y/N Enable/Disable Program Definition

```

These line commands are used with the IDMSVARY screen:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
=====	Line Separator / Auto-repeat
IVRY	Vary IDMS Line Command

Refer to ["IDMS Vary Line Command" on page 329](#) for more information on the IVRY line command.

IDMSCOMD

Select the IDMSCOMD screen from the IDMS Additional Features Menu (on the IDMSM6 screen). The IDMSCOMD screen, shown in [Figure 85](#), allows you to issue an IDMS command using the ICMD line command.

Figure 85 • IDMSCOMD screen

```

COMMAND:_____ IDMSCOMD  14:02:55.6  93.060 108.62% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS:  21  5.17/SEC
ATSL TYP=UE,REP=N
ATID  102900  102899  102881  102898
ATCD ADS2      ADS2      *ERUS*  ADS2
ATPN ADSOMAIN ADSOMAIN PACCU245 ADSOMAIN
=====
TRSL AMS=W
TRPT OPERATOR
TRLT CONSOLE
TRUI
=====
ICMD
.
.  The ICMD line command is used to send an IDMS command to the
.  CV via the Operator Console. A valid userid should be signed
.  on to the console before any other commands are issued.
.  Enter 99SIGNON userid password to signon the console using
.  a valid userid and password.

```

These line commands are used with the IDMSCOMD screen:

Line Command	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
=====	Line Separator / Auto-repeat
TRSL	Terminal Definition Selection Keywords
TRPT	Physical Terminal ID
TRLT	Logical Terminal ID

Line Command	Description
TRUI	User ID
====	Line Separator / Auto-repeat
ICMD	Issue IDMS Command

Enter the IDMS command with the ICMD line command. PreAlert sends the command to MVS via SVC 99. MVS then routes the command to the appropriate IDMS CV, where the command is received through the OPERATOR CONSOLE terminal definition. For further information, refer to ["Issue IDMS Commands" on page 331](#).

IDMSMLOG

Select the IDMSMLOG screen from the IDMS Additional Features Menu (on the IDMSM6 screen). The IDMSMLOG screen, shown in [Figure 86](#), is used to request PreAlert statistics logging for the IDMS CV.

Figure 86 • IDMSMLOG screen

```

COMMAND:_____IDMSMLOG  14:03:18.3  93.060 102.25% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS:  21  5.17/SEC
ATSL TYP=UE,REP=N
ATID  102900  102899  102881  102898
ATCD ADS2      ADS2      *ERUS*  ADS2
ATPN ADSOMAIN ADSOMAIN PACCU245 ADSOMAIN
=====
ILOG
.  ILOG Keywords: (any combination of values may be used)
.  LOG=S      Current IDMS System Statistics records
.  LOG=I      Internal IDMS System Statistics records
.  LOG=T,E    Active Task and Run Unit Statistics records
.  LOG=A,R    Database Area Statistics records
.  LOG=B,F    Buffer Statistics records
.  LOG=M      PreAlert/IDMS Exception messages only
.  LOG=D      PreAlert display screen images
.  LOG=N      None, also suppresses any requests from Exception Analysis
.  LOG=*      Resets all ILOG settings
=====
MLOG
+  CLOSED DSN=
.  Specify DSN=mlog.dataset.name to direct statistics logging

```

These line commands are used with the IDMSMLOG screen:

Line Commands	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
====	Line Separator / Auto-repeat
ILOG	Request Statistics Logging for the IDMS CV
MLOG	PreAlert Statistics Logging

Refer to ["Statistics Logging Feature" on page 44](#) and ["IDMS Statistics Logging" on page 327](#) for further information on statistics logging for IDMS.

IDMSRCES

Select the IDMSRCES screen from the IDMS Additional Features Menu (on the IDMSM6 screen). The IDMSRCES screen, shown in [Figure 87](#), displays resources held by an active task or by a logical terminal between tasks.

Figure 87 • IDMSRCES screen

```

COMMAND:_____IDMSRCES  14:03:36.1  93.060 101.75% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS:  21   5.17/SEC
ATSL TYP=UE,REP=N
ATID  102900      102899      102881      102898
ATCD ADS2        ADS2        *ERUS*      ADS2
ATPN ADSOMAIN    ADSOMAIN    PACCU245    ADSOMAIN
ATUI DJB3754     EMBPPOI      RVM7806
ATRE  0/  5      9/  9      8/  8      10/ 10
=====
TRSL RES=Y,REP=N
TRPT DCPTE001 DCPTE002 DCPTE003 DCPTE004 DCPTE005 DCPTE006 DCPTE007 DCPTE008 +
TRLT DCLTE001 DCLTE002 DCLTE003 DCLTE004 DCLTE005 DCLTE006 DCLTE007 DCLTE008
TRST * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON
TRUI MBH8478 GPGPDDI VSW9997 RVM7806 DSW5984 JCS3791 EGL2988 DSD4702
=====
RCES
.   RCES Keywords:
.       TCE=taskid      Display resources held by the task
.       LTE=lterm       Display resources held by the lterm
.
.   See IDMS Users Guide "Resources Held by a Task or Lterm"
.   for the RCES message formats.

```

These line commands are used with the IDMSRCES screen:

Line Command	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Active Task Code
ATPN	Program Name
ATUI	User ID
ATRE	RCE Usage, Current/Total
TRSL	Terminal Definition Selection Keywords
TRPT	Physical Terminal ID
TRLT	Logical Terminal ID
TRUI	User ID
====	Line Separator / Auto-repeat
RCES	Resources Held by an L-Term or Active Task

Refer to ["Resources Held by a Task or L-term" on page 319](#) for a description of the keywords and message formats for the RCES line command.

IDMSTTRC

Select the IDMSTTRC screen from the IDMS Additional Features Menu (on the IDMSM6 screen). The IDMSTTRC screen, shown in [Figure 88](#), displays the IDMS Task Trace table.

Figure 88 • IDMSTTRC screen

```

COMMAND:_____IDMSTTRC   14:03:51.6   93.060 109.18% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE   TASKS:  21   5.17/SEC
ATSL TYP=UE,REP=N
ATID  102900      102899      102881      102898
ATCD ADS2        ADS2        *ERUS*      ADS2
ATPN ADSOMAIN    ADSOMAIN    PACCU245    ADSOMAIN
ATST      EXEC      WAIT      WAIT      WAIT
ATEW          DBIO RD ERUS REQ  DBIO RD
=====
CSST NAME        STATUS  DISPATCH  WAKEUP USER-CPU  SYS-CPU  TASK ID
+   MAINTASK     BUSY    25.9419M 18.5570M   .00S     4:19H   102900
=====
TTRC
+ CURRENT TASK:  102900  TRC WORD   REG 14   REG 15   REG 0    REG 1
+   +002540  LIMTEP1    00044B0A  8E2650EE 00292618 00000000 001B9870
+   +002500  RMGREP1    00041B03  8E2550FA 00254618 00002EBB 001B9334
+   +0024C0  HISTOEP1    00041F16  AE256F3E 0024DE18 000027A0 001A2198
+   +002480  CSASTCKA    0004F001  9E254E26 00254E18 002DDC00 001B97F8
+   +002440  STGPGET     001E0117  9E241568 00254E18 002DDC00 001B97F8
+   +002400  WAITEP5     00070C1B  9E25BD88 002365F0 001AA960 001B9334

```

These line commands are used with the IDMSTTRC screen:

Line Command	Description
IDMS	PreAlert Interface
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
ATST	Active Task Status
ATEW	ECB Wait Code
=====	Line Separator / Auto-repeat
CSST	IDMS Subtask Statistics
TTRC	IDMS Trace Table

See also, ["Trace Table Display" on page 325](#).

MENU IDMSM7

Select MENU IDMSM7 ([Figure 89](#)) from the PreAlert/IDMS Interface Primary Menu to display the PreAlert/IDMS Exception Analysis Menu.

Figure 89 • PreAlert/IDMS Exception Analysis Menu

```

COMMAND: _____ IDMSM7      11:25:33.7  93.060  93.81% .TUT FOR TUTORIAL
.
.      PreAlert / IDMS Interface
.      IDMS Exception Analysis Menu
.
.
MENU IDXLOAD :      LOAD IDMS EXCEPTION ANALYSIS LEVEL SET
MENU IDXLIST :      LIST IDMS EXCEPTION DEFINITION NAMES
.
MENU IDXSYS  :      SET/DISPLAY SYSTEM EXCEPTION DEFINITIONS
MENU IDXTASK :      SET/DISPLAY TASK EXCEPTION DEFINITIONS
MENU IDXDBX  :      SET/DISPLAY DATABASE EXCEPTION DEFINITIONS
MENU IDXBFFR :      SET/DISPLAY BUFFER EXCEPTION DEFINITIONS
.
MENU IDXRUN  :      MONITOR IDMS EXCEPTION ANALYSIS
.
MENU IDX1    :      SAMPLE IDMS EXCEPTION ANALYSIS
.
.
.
NOTE: Review the "PreAlert IDMS Exception Analysis" Chapter before
      using the following screens.
.
.      Position the cursor on the desired MENU name, and press ENTER.

```

Menu references may be added or deleted by editing the IDMSM7 member of the PreAlert help file.

The menu options of the PreAlert Exception Analysis Menu are described and illustrated in the text that follows.

IDXLOAD

Select the IDXLOAD screen from the IDMS Exception Analysis Menu, IDMSM7. The IDXLOAD screen, shown in [Figure 90](#), loads PreAlert exception analysis level sets.

Figure 90 • IDXLOAD screen

```

COMMAND:_____IDXLOAD    11:25:39.8  93.060  83.00% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS:  18    3.12/SEC
.
.   The IXAS line command is used to load the IDMS Exception Analysis level
.   set. The level sets contains the initial settings for the exception
.   thresholds. Level 99 has been included with the PreAlert installation.
.
.   KEYWORD      FUNCTION
.   LVL=xx       - Specify Exception level set
.   SYS=ON/OFF   - Activate/Terminate IDMS-CV Analysis
.   TSK=ON/OFF   - Activate/Terminate Active Task Analysis
.   LOG=xxx      - Specify Exception Logging default options
.   MSG=N/Y/S/D  - Specify Message Display options
.
.   Following IXAS; type LVL=99,SYS=ON,TSK=ON and press Enter to load the
.   level set and activate System and Task level Exception Analysis.
.
IXAS
+   LVL=99      SYS=ON   TSK=ON   LOG=      MSG=Y ALWAYS DISPLAY
+               DBX=ON   BFR=ON   MIN=      0   MAX= 255

```

These line commands are used with the IDXLOAD screen:

Line Command	Description
IDMS	PreAlert Interface
IXAS	Load IDMS Exception Level Set

The IXAS line command is used to manually load or replace the IDMS Exception Analysis Level set for the IDMS CV being monitored. A default level set, LVL=99, has been included with the PreAlert installation.

The Userdata UDIDXL macro may be used to assign an exception level set to specific IDMS CVs. PreAlert automatically loads the assigned level set whenever the IDMS CV is monitored.

IDXLIST

Select the IDXLIST screen from the IDMS Exception Analysis Menu (on the IDMSM7 screen). The IDXLIST screen, shown in [Figure 91](#), lists all "non-spare" exception definitions in the exception level set.

Figure 91 • IDXLIST screen

```

COMMAND: _____IDXLIST      11:25:51.9  93.060  73.25% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS:  18    3.12/SEC

.
.   The IXAL line command lists all non-spare exception definitions.
.
.   The exceptions are listed by "area",
.       SYS for IDMS System Exception Analysis
.       TSK for Active Task Exception Analysis
.       DBX for Database Exception Analysis
.       BFR for Buffer Exception Analysis
.
IXAL LVL=99 SYS=ON  CNT=20  TSK=ON  CNT=20  DBX=ON  CNT=10  BFR=ON  CNT=10
+ SYS: EXA=1  SET=ON  JFC>2
+     EXA=2  SET=ON  CPU>80  IOR<1
+     EXA=3  SET=ON  CPU<5  IOR>100
+ TSK: GBL=1  TCD=GLOBAL-S  SET=OFF
+     GBL=2  TCD=GLOBAL-E  SET=OFF
+     GBL=3  TCD=GLOBAL-U  SET=ON  CPU>50  DBX<1
+     EXA=1  TCD=*          SET=ON  TTM>1  DBX<1  RRR>100
+ DBX: EXA=1  DNM=DDL*          SET=OFF
+     EXA=2  DNM=*          SET=ON  IOR>40  RRR>200
+     EXA=3  DNM=LONGTERM-HISTORY SET=ON  IOR>10
+ BFR: EXA=1  BNM=DDL*          SET=OFF
+     EXA=2  BNM=*          SET=ON  IOR>100  RRR>500
+     EXA=3  BNM=MFC3-4674-BUFFER SET=ON  IOR>40

```

These line commands are used with the IDXLIST screen:

Line Command	Description
IDMS	PreAlert Interface
IXAL	Condensed Exception Definition List

The IXAL line command provides a condensed listing of all non-spare exception definitions. Not all keywords for each exception definition are displayed. Keywords used for limits, delays, command, etc., are not included. Use the appropriate exception definition display line command: IXDS, IXDT, IXDD, or IXDB to display the complete exception definition.

IDXSYS

Select the IDXSYS screen from the IDMS Exception Analysis Menu (on the IDMSM7 screen). The IDXSYS screen, shown in [Figure 92](#), varies and displays PreAlert system exception definitions.

Figure 92 • IDXSYS screen

```

COMMAND: _____ IDXSYS      11:26:01.1  93.060  70.62% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS:  18    3.12/SEC
.
.   The IXVS line command is used to activate or terminate System Exception
.   definitions, alter the thresholds and the other exception options.
.   Keywords are used to select the exception definitions and specify
.   values or options.
.
.   KEYWORD          FUNCTION
.   EXA=nnn          - Specify exception definitions to be altered
.   SET=ON/OFF       - Activate/terminate the exception definition
.
.   Refer to tutorial 2300 for more information.
.
IXVS
IXDS
+ EXA=1  SET=ON  PRI=1  JFC>2  CON=Y  MSG=2 OR MORE IDMS JOURNALS FULL
+ EXA=2  SET=ON  AND=Y  PRI=1  CPU>80  IOR<1  MSG=IDMS IN A CPU LOOP
+ EXA=3  SET=ON  AND=Y  PRI=1  CPU<5  IOR>100  MSG=IDMS IN AN I/O LOOP
IXAL LVL=99 SYS=ON  CNT=20  TSK=ON  CNT=20  DBX=ON  CNT=10  BFR=ON  CNT=10
+ SYS: EXA=1  SET=ON  JFC>2
+       EXA=2  SET=ON  CPU>80  IOR<1
+       EXA=3  SET=ON  CPU<5  IOR>100
+ TSK: GBL=1  TCD=GLOBAL-S  SET=OFF
+       GBL=2  TCD=GLOBAL-E  SET=OFF
+       GBL=3  TCD=GLOBAL-U  SET=ON  CPU>50  DBX<1

```

These line commands are used with the IDXSYS screen:

Line Command	Description
IDMS	PreAlert Interface
IXVS	Vary IDMS System Exception Definitions
IXDS	Display IDMS System Exception Definitions
IXAL	Condensed Exception Definition List

See also ["IDMS System Exception Analysis" on page 343](#).

IDXTASK

Select the IDXTASK screen from the IDMS Exception Analysis Menu (on the IDMSM7 screen). The IDXTASK screen, shown in [Figure 93](#), varies and displays PreAlert active task exception definitions.

Figure 93 • IDXTASK screen

```

COMMAND:_____IDXTASK    11:26:10.1  93.060  80.37% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS: 18    3.12/SEC
.   The IXVT line command is used to activate or terminate Active Task
.   exception definitions and to alter threshold values and Screen Print
.   and Chaining options. Keywords are used to select exception definitions
.   by number, and to specify task code and the exception thresholds.
.
.   KEYWORD                FUNCTION
.   EXA=nnn                - Specify exception definition number
.   TCD=task code mask     - Specify task code mask (mask char = *)
.   TYP=U/E/S/J/C         - Specify task type (default = U)
.   SET=ON/OFF             - Activate/Terminate the exception definition
.
.   Refer to Tutorial 2400 for more information.
.
IXVT
IXDT
+   GBL=1  TCD=GLOBAL-S  TYP=SYS  SET=OFF
+   GBL=2  TCD=GLOBAL-E  TYP=EXT  SET=OFF
+   GBL=3  TCD=GLOBAL-U  TYP=USR  SET=ON  AND=Y  PRI=1  CPU>50  DBX<1
+   MSG=TASK IN A CPU LOOP
+   EXA=1  TCD=*          TYP=USR  SET=ON  AND=Y  LIM=3  PRI=1  TTM>1  DBX<1
+   RRR>100 MSG=TASK IN AN I/O LOOP
IXAL LVL=99 SYS=ON  CNT=20  TSK=ON  CNT=20  DBX=ON  CNT=10  BFR=ON  CNT=10

```

These line commands are used with the IDXTASK screen:

Line Command	Description
IDMS	PreAlert Interface
IXVT	Vary IDMS Active Task Exception Definitions
IXDT	Display IDMS Active Task Exception Definitions
IXAL	Condensed Exception Definition List

Refer also to ["IDMS Active Task Exception Analysis" on page 363](#) for more information.

IDXDBX

Select the IDXDBX screen from the IDMS Exception Analysis Menu (on the IDMSM7 screen). The IDXDBX screen, shown in [Figure 94](#), varies and displays PreAlert database exception definitions.

Figure 94 • IDXDBX screen

```

COMMAND: _____ IDXDBX      11:26:17.2  93.060  69.68% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS: 18    3.12/SEC
.   The IXVD line command is used to activate or terminate Database
.   exception definitions and to alter threshold values and Screen Print
.   and Chaining options. Keywords are used to select exception definitions
.   by number, and to specify area name and the exception thresholds.
.
.   KEYWORD                FUNCTION
.   EXA=nnn                - Specify exception definition number
.   DNM=area name mask    - Specify area name mask (mask char = *)
.   SET=ON/OFF            - Activate/Terminate the exception definition
.
.   Refer to Tutorial 2500 for more information.
.
IXVD
IXDD
+ EXA=1  DNM=DDL*                SET=OFF  PRI=1
+ EXA=2  DNM=*                   SET=ON   PRI=1  IOR>40  RRR>200
+ EXA=3  DNM=LONGTERM-HISTORY   SET=ON   PRI=1  IOR>10
IXAL LVL=99 SYS=ON  CNT=20  TSK=ON  CNT=20  DBX=ON  CNT=10  BFR=ON  CNT=10
+ SYS: EXA=1  SET=ON  JFC>2
+       EXA=2  SET=ON  CPU>80  IOR<1
+       EXA=3  SET=ON  CPU<5  IOR>100
+ TSK: GBL=1  TCD=GLOBAL-S  SET=OFF

```

These line commands are used with the IDXDBX screen:

Line Command	Description
IDMS	PreAlert Interface
IXVD	Vary IDMS Database Exception Definitions
IXDD	Display IDMS Database Exception Definitions
IXAL	Condensed Exception Definition List

See also ["IDMS Database Exception Analysis" on page 384](#).

IDXBFFR

Select the IDXBFFR screen from the IDMS Exception Analysis Menu (on the IDMSM7 screen). The IDXBFFR screen, shown in [Figure 95](#), varies and displays PreAlert buffer exception definitions.

Figure 95 • IDXBFFR screen

```

COMMAND:_____IDXBFFR    11:26:25.9  93.060  86.68% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS: 18    3.12/SEC
.   The IXVB line command is used to activate or terminate Buffer exception
.   definitions and to alter threshold values and Screen Print and Chaining
.   options. Keywords are used to select exception definitions by number,
.   and to specify buffer name and the exception thresholds.
.
.   KEYWORD                FUNCTION
.   EXA=nnn                - Specify exception definition number
.   BNM=buffer name        - Specify buffer name mask (mask char = *)
.   SET=ON/OFF             - Activate/Terminate the exception definition
.
.   Refer to Tutorial 2600 for more information.
.
IXVB
IXDB
+ EXA=1  BNM=DDL*          SET=OFF  PRI=1
+ EXA=2  BNM=*             SET=ON   PRI=1  IOR>100  RRR>500
+ EXA=3  BNM=MFC3-4674-BUFFER SET=ON  PRI=1  IOR>40
IXAL LVL=99 SYS=ON  CNT=20  TSK=ON  CNT=20  DBX=ON  CNT=10  BFR=ON  CNT=10
+ SYS: EXA=1  SET=ON  JFC>2
+       EXA=2  SET=ON  CPU>80  IOR<1
+       EXA=3  SET=ON  CPU<5  IOR>100
+ TSK: GBL=1  TCD=GLOBAL-S  SET=OFF

```

These line commands are used with the IDXBFFR screen:

Line Command	Description
IDMS	PreAlert Interface
IXVB	Vary IDMS Buffer Exception Definitions
IXDB	Display IDMS Buffer Exception Definitions
IXAL	Condensed Exception Definition List

See also ["IDMS Buffer Exception Thresholds" on page 406](#).

IDXRUN

Select the IDXRUN screen from the IDMS Exception Analysis Menu (on the IDMSM7 screen). The IDXRUN screen, shown in [Figure 96](#), displays IDMS exception messages and allows you to monitor selected system and task statistics included in PreAlert Exception Analysis processing.

Figure 96 • IDXRUN screen

```

COMMAND:_____IDXRUN      11:27:34.1  93.060  83.50% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS:  20    3.12/SEC
CSMV CPU-RATE I/O RATE PIN-RATE
+   10.36%   14.41    .00
CSTK  TASKS MAX-TASK ABEND-CT RUN-AWAY  SOS-CT  LOG-USED
+   67141      0      19      0      0    11.77%
=====
ATSL TYP=UE
ATID  67140      67141
ATCD ADS2      MMFT010
ATPN ADSOMAIN MMFA0010
ADLG GNMDU201
ATEW DBIO RD  DBIO RD
ATWT
ATTT      .28S    .09S
ATSO  63168    26368
ATDB      27      26
ATRC      3.44    1.53
ATLK  10/ 43    0/  0
=====
IXDS
+   EXA=1  SET=ON  PRI=1  JFC>2  CON=Y  MSG=2 OR MORE IDMS JOURNALS FULL
+   EXA=2  SET=ON  AND=Y  PRI=1  CPU>80 IOR<1  MSG=IDMS IN A CPU LOOP
+   EXA=3  SET=ON  AND=Y  PRI=1  CPU<5  IOR>100 MSG=IDMS IN AN I/O LOOP
IXDT
+   GBL=1  TCD=GLOBAL-S  TYP=SYS  SET=OFF

```

These line commands are used with the IDXRUN screen:

Line Command	Description
IDMS	PreAlert Interface
CSMV	IDMS System Statistics, MVS Usage
CSTK	IDMS System Statistics, Task Activity
ATSL	Active Task Selection Keywords
ATID	Active Task ID
ATCD	Task Code
ATPN	Program Name
ADLG	ADS Dialog Name

Line Command	Description
ATEW	ECB Wait Code
ATWT	Current Waiting Time
ATTT	Total Task Transaction Time
ATSO	Storage Size
ATDB	Database Requests
ATRC	Record Request Ratio
ATLK	Locks Held, Current/Total
====	Line Separator / Auto-repeat
IXDS	Display System Exception Definitions
IXDT	Display Task Exception Definitions

The IDXRUN screen provides a sample screen for monitoring an IDMS CV by using PreAlert exception analysis. This screen may be customized according to the needs for monitoring IDMS.

IDX1

Select the IDX1 screen from the IDMS Exception Analysis Menu (on the IDMSM7 screen). The IDX1 screen, shown in [Figure 97](#), provides the IDMS exception analysis sample screen.

Figure 97 • IDX1 screen

COMMAND:	_____IDX1	11:27:55.6	93.060	92.62%	.TUT FOR TUTORIAL
.ATH	ON				
IDMS	IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS: 18	3.12/SEC
IXAS					
+	LVL=99	SYS=ON	TSK=ON	LOG=	MSG=Y ALWAYS DISPLAY
+		DBX=ON	BFR=ON	MIN= 0	MAX= 255
IXVS					
IXDS					
STPL	STG POOL	0	CONTAINS TYPES: ALL		
+	SIZE= 3388K	USEAGE	CURRENT	HWM	GET SCAN1= 41595 74%
+	CUSHION= 120K	LONG =	960K 28%	1120K 33%	GET SCAN2= 5261 9%
+	STG WAIT= 0	SHORT=	4K 0%	64K 1%	GET SCAN3= 8966 16%
+	SOS CNT= 0	TOTAL=	964K 28%	1132K 33%	GET REQS = 55822
+	FREE REQS= 55698	PAGES	RELEASED=	0	PAGE RELEASES= 0

These line commands are used with the IDX1 screen:

Line Command	Description
IDMS	PreAlert Interface
IXAS	Load IDMS Exception Level set
IXVS	Vary IDMS System Exception Definitions
IXDS	Display IDMS System Exception Definitions
STPL	Storage Pool Statistics

See also ["Using IDMS Exception Analysis Online - Example" on page 459](#) of the "Exception Analysis" chapter.

SIRFLM

Select the SIRFLM screen from the PreAlert/IDMS Interface Primary Menu. The SIRFLM screen ([Figure 98](#)) displays IDMS local mode elements (jobs) by using the SIRF product to capture local mode statistics.

Figure 98 • SIRFLM screen

```

COMMAND:_____SIRFLM      11:51:21.1  93.334 101.00% .TUT FOR TUTORIAL
.
      SIRF - IDMS Local Mode interface

SIRF
+   SIRF-IDMS 10.2 LOCAL MODE JOBS,    1 RUN UNITS    1
+   SIRF-IDMS 12.0 LOCAL MODE JOBS,    1 TRANSACTIONS  1

.  SIRF - IDMS Local Mode jobs data
LSEL
LJOB DEVBERE2 DEVBERE1
LPGM SIRFTEST SIRFTEST
LIOR   19.06    14.24
LRFB   95.37    82.58
=====

.  SIRF - IDMS Local Mode jobs, horizontal displays
LMHL 1 1/4 Tr/RU ID Program   Date      Time      I/O Rt Rec Req Buff Ut   Buff%
+ DEVBERE2          1 SIRFTEST 93-11-30 11:50:59   19.06 428.05 21.62  95.3
+ DEVBERE1          1 SIRFTEST 11/30/93 11:50:41   14.24  80.63  5.74  82.5
LMHL 2 2/4 Tr/RU ID   DB Rq Page Rq   Rec Rq Rec Cur Page Rd Page Wr O-flow%
+ DEVBERE2          1    4197   1692   4196  4194    194    0
+ DEVBERE1          1    1760   2128   1855  1756    323    0
LMHL 3 3/4 Tr/RU ID SQL Cmd Row Fet Row Ins Row Upd Row Del   Sorts   Rows
+ DEVBERE2          1      0      0      0      0      0      0      0
+ DEVBERE1          1
LMHL 4 4/4 Tr/RU ID   Splits  Spawns SR8s Ersd SR7s Ersd Searches Levels Orphans

```

These line commands are used with the SIRFLM screen:

Line Command	Description
SIRF	SIRF - IDMS local mode job summary
LSEL	Local mode selection keywords
LJOB	Local mode job name
LPGM	Local mode program name
LIOR	Local mode I/O rate
LRFB	Local mode reads found in buffer percentage
LMHL	Local mode horizontal display

For further information, refer to the ["Local Mode Interface" on page 501](#).

PAMENU

Select the PreAlert Miscellaneous Facilities Primary Menu (on the PAMENU screen) ([Figure 99](#)), from the PreAlert/IDMS Interface Primary Menu.

Figure 99 • PreAlert Miscellaneous Facilities Primary Menu

```

COMMAND:          PAMENU      10:55:37.1  01.106  12.18% .TUT for Tutorial
.                  PreAlert Miscellaneous Facilities
.                  Primary MENU
.
MENU BLANK       :      BLANK SCREEN
MENU SCREENS    :      DISPLAY ALL SCREEN NAMES
MENU PRINT      :      SCREEN PRINT FEATURES
.
MENU COLOR1     :      SCREEN COLORS
MENU COLOR2     :      MENU AND COMMENT COLORS
.
MENU USERD1     :      USERDATA KEYWORDS, COMPRESSED
MENU USERD2     :      USERDATA KEYWORDS, EXPANDED
.
.              The following facilities require PreAlert authorization.
.
MENU CONSOLE    :      MVS MASTER CONSOLE INTERFACE
MENU CONSRMQ   :      MVS MASTER CONSOLE RETAINED MESSAGE QUEUE
.
MENU DUMP       :      DISPLAY VIRTUAL MEMORY
MENU DUMPSCAN  :      DISPLAY/SCAN VIRTUAL MEMORY
.
.      Position the cursor on the desired MENU name, and press ENTER.

```

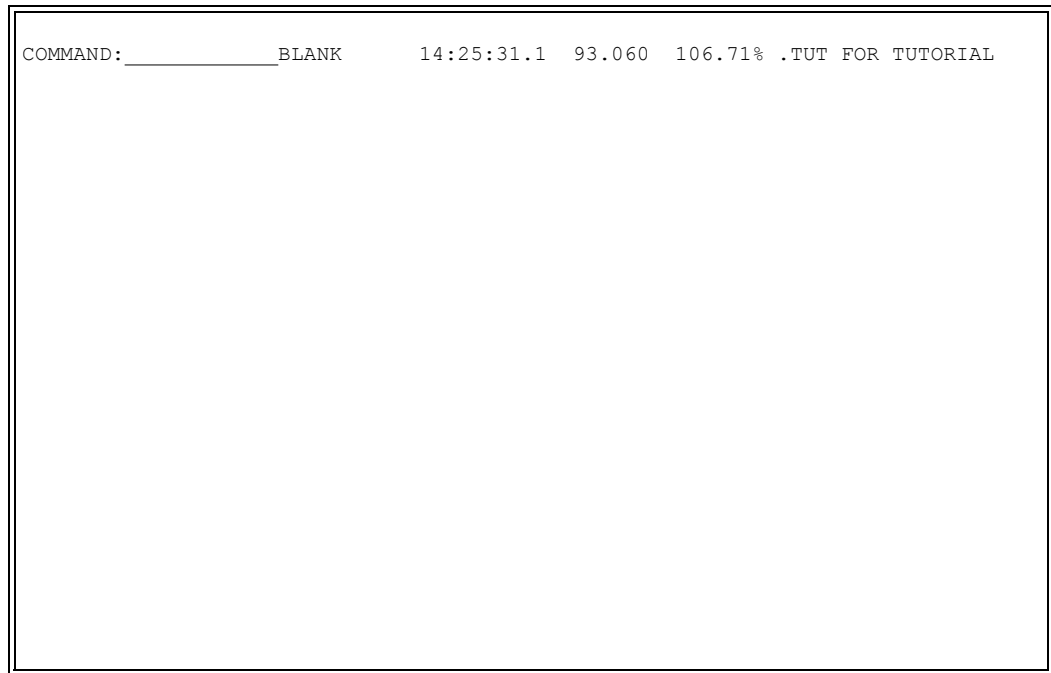
The PAMENU contains screen references to facilities available within PreAlert.

The last 4 menu items, CONSOLE, CONSRMQ, DUMP, and DUMPSCAN screens, require PreAlert user authorization. Refer to the "Security Considerations" chapter in the *ASG-PreAlert IDMS/MVS System Guide* for more information on authorized user IDs.

BLANK

Select a BLANK screen from the PreAlert Miscellaneous Facilities Primary Menu (on the PAMENU screen). Use this screen ([Figure 100](#)) to build your own customized screens.

Figure 100 • BLANK screen



Enter PreAlert line commands in the first column of each line. A screen may contain up to 64 line commands. The PF7 (.UP) and PF8 (.DOWN) keys are used to scroll up and down the screen.

Save the screen by using the .=x header command. See ["Building and Saving Screens" on page 12](#) for more information.

SCREENS

Select the SCREENS screen ([Figure 101](#)) from the PreAlert Miscellaneous Facilities Primary Menu (on the PAMENU screen). This screen displays the names of all screens available to the user.

Figure 101 • SCREENS screen

```

COMMAND: _____ SCREENS      14:25:22.7  93.060 110.08% .TUT FOR TUTORIAL
SCRN  START1  WERXSHPS WERXSHPA WERXSHPB WERXSHPC WERXSHPD WERXSHPE WERXSHPG
+   WERXSHPH WERXSHPI WERXSHPJ WERXSHPK WERXSHPL WERXSHPM WERXSHPO WERXSHPP
+   WERXSHPQ WERXSHPR WERXSHPS WERXSHPT WERXSHPV WERXSHPW WERXSHPX WERXSHPY
+   WERXSHpz WERXSHp1 WERXSHp3 XJOB      <<====>> ACTVPGMS ACTVTASK AJ2
+   AJ3       AJ4       ALLJOB  ATLK      ATPLOTS  ATPR      ATRU      ATSTAT1
+   ATSTAT2  ATSTAT3  ATTK      ATTR      ATTW      BFFRDEFN BFFRPLOT BLANK
+   CHPBUSY  CONSOLE  CPUPLT   CSA       CSSTAT   DATASET  DBAREAS  DBPLOTS
+   DBSTATS  DISK      DISKBUSY DISKIO   DISKSP3  DISKXA   DISK1    DT
+   DTRACE   DUMP      ESTOR     EXALIST  EXALOAD  EXARUN   EXASYS   EXATASK
+   EXA1     FIELDS   FIXED     FRAMES  HISTOGRM IDMSABND IDMSABNZ IDMSACTV
+   IDMSCOMD IDMSDUMP IDMSLINE IDMSMENU IDMSMLOG IDMSMMAP IDMSM1   IDMSM2
+   IDMSM3   IDMSM4   IDMSM5   IDMSM6   IDMSM7   IDMSRCES IDMSSTAT IDMSSTA1
+   IDMSSTA2 IDMSTTRC IDMSVARY IDXLIST IDXLOAD IDXRUN  IDXSYS   IDXT
+   IDXTASK  IDX1     IDX2     JOBCPU  JOBNQ    JOBPLT   JOBRATE  JOBSRM
+   JRNLDEFN JSPLOT   LCUQUEUE LCURATE  LINEDEFN LOCKSTAT MAINMENU MPSTATS
+   MVSIDMS  MVSMENU  MVSM1    MVSM2    MVSM3    MVSM4    MVSM5    MVSSAPFL
+   MVSSKILL MVSSLPAM MVSSMZAP  MVSSSWAP NEWJOB   PAGEABLE PAGEPLOT PAGERATE
+   PAGESWAP PAGING    PAMENU   PFKEYS   PFKEYSCN PLOTS    PLOTSP   POPSAREA
+   PRDWAIT1 PRGPOOL  PRINT     PRODDB   PRODDUMP PRODPool PRODSTG  PRODWAIT
+   PROGDEFN PROGDEF1 PROGDEF2 RCASTAT REALSTG  REALSTOR RUSTAT1  RUSTAT2
+   RUSTAT3  SCREENS  SCRQSTAT SRM      SRMLOAD  SRMSWAP  SRMTO    SRMTSOR
+   SRM2     STGPOL   TAPE      TASKDEFN TERMDEFN TERMUSE  TEST     TESTTASK
+   TRACE    TSKSTATS TSO       TSOWAIT  TSOWAIT1 WAIT     WAIT1
.
.  To select a screen; (1) position the cursor to the desired screen

```

The SCRNL line command lists the screens in the help files. The user's help file precedes the <<====>> symbol; the PreAlert Help file follows the symbol. ISPF may be used to edit, rename, or delete any member in either help file.

Member names that begin with an individual's user ID may be retrieved by entering the single character following the user ID.

PRINT

Select the PRINT screen ([Figure 102](#)) from the PreAlert Miscellaneous Facilities Primary Menu (on the PAMENU screen). The PRINT screen is the Screen Print facility set up screen.

Figure 102 • PRINT screen

```

COMMAND: _____PRINT      14:25:40.7  93.060 104.93% .TUT FOR TUTORIAL
.
.   The PRNT line command can be used to specify the SYSOUT class, HOLD
.   attribute, destination, and print count, and to close (spin-off) the
.   print file.
.
.   KEYWORD          FUNCTION
.   CLS=x            - Specify SYSOUT class
.   SPN=Y            - Close (spin-off) the file
.   HLD=Y/N          - Specify HOLD attribute
.   DST=destination  - Specify SYSOUT destination
.   CNT=n            - Specify print count
.   DDN=ddname       - Specify DDname
.
.   The PRNT line command (with print count > 0) is required on all screens
.   to be printed. The screens will no longer be automatically printed
.   when the print count has been decremented to zero.
.
PRNT
+  OPEN      CLASS:X  HOLD:Y  DEST:R0      COUNT:   0  DDN:SYS00002

```

Refer to ["Screen Print Facility" on page 13](#) for a complete list of screen printing options.

COLOR1

Select the COLOR1 screen ([Figure 103](#)) from the PreAlert Miscellaneous Facilities Primary Menu (on the PAMENU screen). The COLOR1 screen contains the line commands used to alter color attributes.

Figure 103 • COLOR1 screen

```
COMMAND:_____COLOR1      9:02:47.5  95.018 100.00% .TUT for Tutorial
Menus Active:  MAINMENU  PAMENU
. The .CLR line command may be used to activate COLOR support.
. Specify ON full color support;
.      XON exception messages color support.

.CLR ON

. These line commands can be used to tailor color and
. extended highlighting for PreAlert. For each item, specify
. a color, followed by a hilight option.

. Valid Colors: RED, BLUE, TURQ, YELLOW, WHITE, GREEN, PINK
. Valid Hilights: NORMAL, USCORE, REVERSE, BLINK

COIN RED,USCORE      LINE COMMAND INPUT AREAS
COPN BLUE,NORMAL     NORMAL DISPLAY AREAS
COPH WHITE,USCORE    HILIGHTED DISPLAY AREAS
COUN GREEN,NORMAL    NORMAL INPUT AREAS
COUH PINK,NORMAL     HILIGHTED INPUT AREAS
```

Refer to ["Color Support" on page 24](#) for additional information.

COLOR2

Select the COLOR2 screen ([Figure 104](#)) from the PreAlert Miscellaneous Facilities Primary Menu (on the PAMENU screen). The COLOR2 screen contains the line commands used to alter special character color attributes.

Figure 104 • COLOR2

```

COMMAND:_____COLOR2      9:03:48.2  95.018  82.75% .TUT for Tutorial
Menus Active:  MAINMENU  PAMENU
.  The CHAT line command assign display attributes to special
.  characters for Menus and Comments.
.  Specify:  CHA=character
.            INT=intensity          (monochrome displays)
.            COL=color,hilight      (color displays)
.            CAN=Y                  (remove special character)

.  Valid Intensities: LOW, HIGH
.  Valid Colors: RED, BLUE, TURQ, YELLOW, WHITE, GREEN, PINK
.  Valid Highlights: NORMAL, USCORE, REVERSE, BLINK

CHAT
+ CHA=%,INT=LOW,COL=GREEN,NORMAL
+ CHA=#,INT=HIGH,COL=WHITE,USCORE
+ CHA=@,INT=LOW,COL=YELLOW,NORMAL

```

Refer to ["Color Support" on page 24](#) for additional information.

USERD1

The USERD1 screen is selected from the PreAlert IDMS Miscellaneous Facilities Primary Menu (on the PAMENU screen). Shown in [Figure 105](#), this screen displays the PreAlert USERDATA settings in a compressed format.

Figure 105 • USERD1 screen

```

UDPB UDPARMS --- USERDATA ASSEMBLED 11/02/94 09.41
+   USER AUTHORIZATION AND SECURITY
+       SECINT=Y  SECWAIT=Y  SECSAVE=Y  AUTHXIT=N  AUTOATH=Y
+       AMVS=(NONE)
+   MISCELLANEOUS OPTIONS
+       AREP=Y  PRTCLS=X  PRTDEST=R0  PRTHOLD=Y
+       HELPDSN=*.PREALERT.HELP
+       NOSAVE=N  MEMREP=N  UNIT=SYSDA  INT=(5,3,600)  SPFLPA=Y
+       COMDWTO=N  WTORTC=(11)  WTODSC=(7)
+       SCRNLIM=512  PLOTYEL=45  PLOTRED=75  MSRBTO=10  MENUHDR=Y
+       COPN=(BLUE,NORMAL)  CPH=(WHITE,NORMAL)
+       COUN=(GREEN,NORMAL)  COUH=(RED,NORMAL)
+       COIN=(RED,USCORE)
+       ASFID=  ASFFUN=EVENT.NOTIFICATION.MANAGER
+   STATISTICS LOGGING OPTIONS
+       MLOGSMF=0  MLOGDSP=***  MLOGBUF=204800  MLOGMEM=#MLOGOFF
+       MLOGDSN=*.SHOPMON.MLOG
+   IDMS INTERFACE OPTIONS
+       PIDMS=IDMS12G  IDMSMAX=4  IDMSRCE=S  ITIME=20
+       IJRNL=60  IJRNLF=N  DCLOG=N  IDMSRB=Y  ITASKST=Y
+       IDXPFX=PAIDX  IDXDATE=Y  IADS2=ADS2  IUSMAX=128  IDMSJCT=64
+       ILOGINT=15  ILOGSYN=N  ILOGSTA=N
+       SPYIAT=SPYIAT  SPYIRU=SPYIRU  SPYIDB=SPYIDB  SPYIBF=SPYIBF
+   SIRF-IDMS LOCAL MODE OPTIONS
+       SIRFLME=16  SPYSLM=SPYSLM
+   MVS INTERFACE OPTIONS

```

Use the .DOWN (PF8) scroll command to view additional data. The authorized user IDs, line command exclude lists, IDMS CV numbers, IDMS exception level sets, MVS performance group and domain names, and MVS exception levels sets display also.

USERD2

The USERD2 screen is selected from the PreAlert IDMS Miscellaneous Facilities Primary Menu (on the PAMENU screen). Shown in [Figure 106](#), this screen displays the PreAlert USERDATA settings for the UDPARMS macro.

Figure 106 • USERD2 screen

```

COMMAND: _____USERD2      9:19:35.2  93.153  96.32% .TUT FOR TUTORIAL
.   This screen displays the expanded list of the USERDATA UDPARMS
.   keywords.  Scroll down key (PF8) to display additional values.

UDPA UDPARMS --- USERDATA ASSEMBLED 06/01/93 14.11
+   USER AUTHORIZATION AND SECURITY
+       SECINT=Y           UPDATE INTERVAL SECURED
+       SECWAIT=Y          MVS WAIT ANALYSIS SECURED
+       SECSAVE=Y          SCREEN SAVE SECURED
+       AUTHXIT=N          ALL AUTH USERS IN UDAUSER
+       AUTOATH=Y          AUTO .AUTHON FOR AUTH USERS
+       AMVS=(NONE)        PREALERT.MVS NOT SECURED
+   MISCELLANEOUS OPTIONS
+       AREP=Y             AUTO-REPEAT DEFAULT
+       PRTCLS=X           PRINT SYSOUT CLASS DEFAULT
+       PRTDEST=R0         PRINT DESTINATION DEFAULT
+       PRTHOLD=Y          PRINT HOLD ATTRIBUTE DEFAULT
+       HELPDSN=*.PREALERT.HELP
+       NOSAVE=N           SAVE OPTION SUPPRESSED
+       MEMREP=N           .=X,R REQUIRED TO REPLACE MEMBER
+       UNIT=SYSDA         DEFAULT UNIT FOR DYNAMIC ALLOCATION
+       INT=(5,3,600)      AUTO-UPDATE INTERVAL DEFAULTS
+       SPFLPA=N           ISPF MODULES NOT IN LPA
+       COMDWTO=N          NO WTO MESSAGE FOR COMD COMMANDS
+       WTORTC=(11)        WTO MESSAGE ROUTE CODES
+       WTODSC=(7)         WTO MESSAGE DESCRIPTOR CODES

```

Use the .DOWN (PF8) scroll command to view additional data. The entire list of UDPARMS keywords will be displayed.

CONSOLE

Select the CONSOLE screen ([Figure 107 on page 160](#)) from the PreAlert Miscellaneous Facilities Primary Menu (on the PAMENU screen). The CONSOLE screen is the PreAlert Master Console display.

Figure 107 • CONSOLE screen

```

COMMAND: _____CONSOLE      14:27:27.0  93.060 105.75% .TUT FOR TUTORIAL
MCON      * TGLPACZ.PTGL951R.STEP060.SORTOUT
MCON      - 14.27.09 JOB00653  $HASP375 PTGL721R ESTIMATE EXCEEDED BY      310,000
MCON      - LINES
MCON      - 14.27.13 JOB00653  $HASP375 PTGL721R ESTIMATE EXCEEDED BY      320,000
MCON      - LINES
MCON      *14.27.15 JOB02662 *TMS001  IEF233A M FB0,SCRTCH,SL,POIC016R,STEP070
MCON 00 *14.27.15 JOB02544 *IEF233A M FD0,732303,,PETV956E,S956290,
MCON      * ETVPRDZ.PETVP902.ERROR
MCON      *14.27.15 JOB02544 *TMS001  IEF233A M FB3,PRIVAT,SL,PETV956E,S956290,
MCON      * ETVPRDZ.PETVR948.SRTDERR
MCON      *14.27.21 JOB02196 *TMS001  IEF233A M FC2,PRIVAT,SL,PTGL941R,STEP060,
MCON      * TGLPACZ.PTGL941R.STEP060.SORTOUT
MCON
MCON
MCON IEE152I      ENTER      CANCEL      D C,K
MCON IEE163I MODE= RD
=====
RPLY 02.41.09 STC05328 *17 REPLY WITH REQUEST TO IDMS V6
RPLY 02.24.07 STC05215 *08 REPLY WITH REQUEST TO IDMS V8
RPLY 01.11.27 STC04328 *83 REPLY WITH REQUEST TO IDMS V2
=====
COMD

```

These line commands are used with the CONSOLE screen:

Line Commands	Description
MCON	Master Console Display line
RPLY	Outstanding Operator Reply Element
COMD	Issue MVS Commands

Refer to the ["Master Console Support" on page 62](#) for more information on the PreAlert master console display.

CONSRMQ

The CONSRMQ screen ([Figure 108](#)) is selected from the PreAlert Miscellaneous Facilities Primary Menu. This screen is the PreAlert MVS Master Console Retained Message Queue management screen.

Figure 108 • CONSRMQ screen

```

COMMAND:          CONSRMQ      17:04:05.9  99.321  82.37% .TUT for Tutorial
.  MVS Master Console Retained Message Queue
MDRM          269  C   15.16.17 JOB02867 *PREALERT RETAINED MESSAGE TEST
+             264  C   15.12.09 JOB02856 @PDSALTER07-W ERROR: MEMBER TSTALTER AT:
+                                     TCR.R43.DIST.ALL.COBOLE.LOADLIB DLIB<
+             250  C   08.19.39          *ILR006E COMMON PAGE DATA SET FULL, OVERF
+                                     LOWING TO PLPA DATA SET
+             249  I   05.20.14 STC02146 *DSNT405E -DB2M DSNTLIDE DISPATCH PRIORIT
+                                     IES NOT IN SYNC: IRLM      : 0071 COMPARED TO DB2
+                                     : 0071
.
.  Enter MSG=nnnnn (message id) to delete message
MDOM

```

These line commands are used with the CONSRMQ screen:

Line Commands	Description
MDRM	Display retained messages
MDOM	Delete retained messages

Refer to "[Master Console Support](#)" on page 62 for more information on the PreAlert retained message queue features.

DUMP

Select the DUMP screen ([Figure 109](#)) from the PreAlert Miscellaneous Facilities Primary Menu (on the PAMENU screen). The DUMP screen displays central storage.

Figure 109 • DUMP screen

COMMAND:_____		DUMP	14:28:10.5	93.060	105.66%	.TUT FOR TUTORIAL	
ADDR *ASCB69							
DUML	DUMP	ASID	69/WERXSH	ADDRESS:00F2A180			
DUMH	ADDRESS	+0.....3	+4.....7	+8.....B	+C.....F	*---E B C D I C--*	
DUMP	00F2A180	+000	C1E2C3C2	00B0D600	00F24280	00000000	*ASCB O 2 *
DUMP	00F2A190	+010	009FD4A0	000016E5	00000000	009C32C0	* M V *
DUMP	00F2A1A0	+020	00000001	00450000	000100DB	80B0B301	* *
DUMP	00F2A1B0	+030	7FF16EB0	00000040	00B0CE40	00A93938	*"1> Z *
DUMP	00F2A1C0	+040	00000001	1A11D125	A545ABEB	731A7134	* J V *
DUMP	00F2A1D0	+050	00000D69	809FDD60	A545ABC1	00000000	* -V A *
DUMP	00F2A1E0	+060	009FFD18	FFFFF000	00000000	009FDF00	* *
DUMP	00F2A1F0	+070	03EF0000	00000000	00000000	009FE178	* *
DUMP	00F2A200	+080	00000000	00000000	00000000	40000000	* *
DUMP	00F2A210	+090	01D49240	01DADD18	00000280	00000000	* MK *
DUMP	00F2A220	+0A0	00000000	00000000	00000000	00000000	* *
DUMP	00F2A230	+0B0	00B0CE48	00000000	00000000	00000000	* *
DUMP	00F2A240	+0C0	00000007	000006B4	00000000	2B8CD400	* M *
DUMP	00F2A250	+0D0	00000000	00000000	00000001	00000000	* *
DUMP	00F2A260	+0E0	009FEA58	FFFFFFDB	00000000	00000000	* *
DUMP	00F2A270	+0F0	00000000	00000000	01DD1140	7FFEC000	* " *

These line commands are used with the DUMP screen:

Line Commands	Description
ADDR	Specify storage address for display
DUML	Storage ASID/Jobname and Address
DUMH	Storage Display Header
DUMP	Storage Display, 16 bytes per line command

Refer to ["Displaying Virtual Storage" on page 56](#) for more information.

DUMPSCAN

Select the DUMPSCAN screen ([Figure 110](#)) from the PreAlert Miscellaneous Facilities Primary Menu (on the PAMENU screen). Use the DUMPSCAN screen to search either private or common areas for a character string or hex data.

Figure 110 • DUMPSCAN screen

```

COMMAND:          DUMPSCAN   11:06:35.9  01.106  15.06% .TUT for Tutorial
.  Memory Scan - Enter:
.
.  Address Space:  JOB=jobname or ASI=asid
.  Search Data:   STR=character string or HEX=hex data
.  Location:      LOC=PRIVATE/LSQA/CSA/SQA/NUCLEUS/LPA
.  Alignment:     ALN=D/F/H/B

MSCN JOB=PACTEST,STR=SHOPMXMB,ALN=B
+      DATA: STR=SHOPMXMB
+      ADDRESS SPACE: JOB=PACTEST
+      LOCATION: LOC=PRIVATE
+      ALIGNMENT: ALN=B
+      FOUND AT: 0000FD4D

CMDA          ENTER ASID
ADDR
DURL DUMP ASID  127/PACTEST  ADDRESS:0000FD4D
DUMH  ADDRESS      +0.....3 +4.....7 +8.....B +C.....F  *---E B C D I C--*
DUMP  0000FD4D +000                                E2C8D6      *          SHO*
DUMP  0000FD50 +003  D7D4E7D4 C26DF0F4 61F1F361 F0F16DF1  *PMXMB_04/13/01_1*
DUMP  0000FD60 +013  F84BF0F2 90ECD00C 18CF41B0 CFFF41B0  *8.02          *
DUMP  0000FD70 +023  B00158A0 100058F0 A898BF1F F4904770  *          0yq  4  *
DUMP  0000FD80 +033  C0744100 08000700 47F0C048 00000900  *          0  *
```

These line commands are used with the DUMPSCAN screen:

Line Command	Description
MSCN	Memory scan
CMDA	Specify cross memory dump ASID
ADDR	Specify storage address for display
DURL	Storage ASID/Jobname and Address
DUMH	Storage display header
DUMP	Storage display, 16 bytes per line command

3

Active Task Data

These sections provide information regarding the various Active Task Data that PreAlert supplies:

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Active Task Selection

The ATSL line command specifies selection criteria which are then used by the ATID line command to select active tasks for display. The ATSL line command allows you to restrict the displayed active tasks to only those that match specified criteria. The criteria include task type, physical terminal ID, task code, program name, user ID, total task time, dialog name, and exception condition. Separate keywords with a comma when more than one is selected.

The ATSL line command follows the ATID line command. The ATSL line command specifies the selection criteria. The ATID line command selects which active tasks are to be displayed and displays the task ID.

Keyword	Description
TYP=xxx	Specifies active task type parameters. Active tasks are selected for display by type.
U	User (online) tasks
E	External tasks
S	System tasks

Keyword	Description
	L Line driver tasks
	P Print driver tasks
TCD= <i>mask (s)</i>	Specifies one to eight task code masks. Active tasks are selected by their task code. The ATCD line command displays the task code.
PGM= <i>mask (s)</i>	Specifies one to eight program name masks. Active tasks are selected by their program name. The ATPN line command displays the program name.
DLG= <i>mask (s)</i>	Specifies one to eight dialog name masks. Active tasks are selected by their ADSO dialog name. Only ADSO dialogs may be selected by dialog name. The ADLG line command displays the dialog name.
PTE= <i>mask (s)</i>	Specifies one to eight physical terminal ID masks. Active tasks are selected by physical terminal ID. The ATPT line command displays the terminal ID.
USR= <i>mask (s)</i>	Specifies one to eight user ID masks. Active tasks are selected by the user ID associated with the task. The ATUI line command displays the user ID.
TTM= <i>nnn</i>	Specifies transaction time (seconds). Active tasks existing for longer than the specified transaction time are selected. The ATTT line command displays the transaction time.
EXA= <i>xxx</i>	Specifies exception analysis status parameter. Active tasks having one or more exceptions are selected for display. Refer to "IDMS Active Task Exception Analysis" on page 363 .
	Y One or more exceptions
	N No exceptions
REP= <i>xxx</i>	Specifies the Auto-repeat option. When the number of active tasks selected for display exceeds the number that can be displayed across the screen, the line commands are repeated until all selected active tasks are displayed. Refer to "Auto-repeat Option" on page 27 for further information.
	Y Request Auto-repeat option
	N Suppress Auto-repeat option
SRT= <i>xxx</i>	Specify the sort field, default sequence. The display of selected active tasks is sorted on the specified field using a default sort sequence.

Keyword	Description
SRT<xxx	Specify the sort field, ascending sequence. The display of selected active tasks is sorted in ascending order on the specified field.
SRT>xxx	Specify the sort field, descending sequence. The display of selected active tasks is sorted in descending order on the specified field.

<u>Sort Field</u>	<u>Description</u>
ARCN	CALC no overflow records (rate)
ARCO	CALC overflow records (rate)
ARDB	Database requests (rate)
ARRR	Records requested (rate)
ARRU	Records current of run unit (rate)
ARVN	VIA no-overflow records (rate)
ARVO	VIA overflow records (rate)
ATCD	Task code
ATCN	CALC no-overflow records
ATCO	CALC overflow records
ATDB	Database requests
ATID	Task ID
ATLK	Total locks
ATPD	Pages read per DB call ratio
ATPN	Program name
ATPQ	Pages requested
ATPR	Pages read
ATPW	Pages written
ATRC	Records requested to current ratio
ATRR	Records requested
ATRU	Records current of run unit
ATSO	Storage owned
ATTS	System mode time

Keyword	Description
ATTT	Total time
ATTU	User mode time
ATVN	VIA no-overflow records
ATVO	VIA overflow records

In [Figure 111](#), the ATSL keywords requested online and external active tasks.

Figure 111 • ATPLOTS screen

COMMAND:_____ ATPLOTS 8:40:50.7 93.060 98.97% .TUT FOR TUTORIAL							
IDMS IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS: 24	7.33/SEC		
ATSL TYP=UE,SRT=ATTT							
ATID	20336	20358	20359	20360	20362	20366	20367
ATCD	ADS2	ADS2	ADS2	ADS2	MMFT010P	MMFT050	ADS2
ATPN	ADSOMAIN	ADSOMAIN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN
ATXT	GNMDU230	GANDI100	AAPDI020	GANDI105	MMFT010P	MMFT050	GANDI140
ATTT	2.35S	2.31S	2.31S	2.29S	1.79S	.28S	.05S
ARTC	1.90%	1.68%	2.42%	1.02%	.45%	.45%	.17%
ARIO	18.26	12.93	6.47	7.83	2.77	24.17	.00
ARDB	44.16	41.39	65.13	23.92	21.66	120.85	132.82
ATPL FLD=ARTC							
+ TASK ID	IDX	TCD	CPU	RATE	...	10...	20...
+ 20336	GNMDU230		1.90%	*	...	...	...
+ 20358	GANDI100		1.68%	*	...	...	...
+ 20359	AAPDI020		2.42%	*	...	...	...
+ 20360	GANDI105		1.02%	*	...	...	...
+ 20362	MMFT010P		.45%	...	...	...	...
+ 20366	MMFT050		.39%	...	...	...	...
+ 20367	GANDI140		.17%	...	...	...	...

Active Task Display Line Commands

Use these line commands to display active task information:

Line Command	Description
ATID	Task ID, number assigned for each task
	Overflow indicator (+) available
ATCD	Task Code used to invoke the task
	ERUS External run unit

Line Command	Description
	*SYSTEM*IDMS system task
	*DRIVER*Line driver or print driver task
ATEW	Task ECB wait codes; PreAlert will display up to five ECB wait codes
ATWT	Task Waiting Time, time since last dispatch (accuracy +/- 1.0 seconds)
ATST	Task Status
	WAIT Task is waiting for response from IDMS
	EXEC Task is currently executing
	ABEND Task is abending
	READY Task is ready to execute, waiting to be dispatched
	NEW TASK New task, not yet dispatched
ATPN	Program executing for the task.
	MASTER Task controller
	DBRC Database Region controller
	RHDCPRNT Print Driver program
	Line ID Line Driver Line ID
ATPS	Program size in bytes.
ATLK	Current/Total Locks being held
ATLS	Current/Total Select Locks (IDMS 10.2 only)
ATLU	Current/Total Update Locks (IDMS 10.2 only)
ATLC	Current/Total Locks held
ATSR	Get Storage Request Count
ATSA	Storage Allocation Size
ATSF	Free Storage Request count
ATSO	Storage Allocated to a Task (bytes)
ATSH	Storage Allocation High-Water Mark (HWM)
ATLT	Logical Terminal ID executing the Task
ATPT	Physical Terminal ID executing the Task
ATTR	Terminal Read/Write count

Line Command	Description
ATTW	Task Wait Time
ATAW	Average Wait Time per Database Request
ATTT	Task Total Time
ATUI	User ID associated with the Task
ATUS	User Security bit map Hex representation of first 32 security bits
ATGT	Task Gettime/Settime Requests
ATSG	Scratch Gets
ATSP	Scratch Puts
ATSD	Scratch Deletes
ATQG	Queue Gets
ATQP	Queue Puts
ATQD	Queue Deletes
ATDP	Dispatching Priority
ATWD	Last Call Trace Word
ATSV	Total Service Requests
ATPC	Total Programs called/loaded
ATRE	Current/Max number of RCEs
ATRL	Current/Max number of RLEs
ATDE	Current/Max number of DPEs
ATIL	Current/Max number of ILEs
RCES	Resources held by an Active Task. Refer to Special line commands for a description of the RCES line command
ATXT	Task Code used for Active Task Exception Analysis
ATXG	Global Task Exception Definition/Status (<i>nnn/abcd</i>)
ATXI	Task Exception Definition/Status (<i>nnn/abcd</i>)
	<i>nnn</i> Exception definition number
	<i>a</i> Exception status
	. Exception did not occur
	* Exception occurred

Line Command	Description
	L Exception limit reached (LIM= <i>n</i>)
	X Exception limit-x reached (LMX= <i>n</i>)
	D Exception delayed (DLY= <i>n</i>)
	T Exception time delayed (TDL= <i>n</i>)
	I Exception bypassed, time interval (TIN= <i>n</i>)
	R Exception bypassed, time of day range (TOD< or TOD>)
<i>b</i>	Screen chaining status
	. Not requested
	* Screen chaining requested
	L Screen chaining limit reached (SLM= <i>n</i>)
	D Screen chaining delayed (SDL= <i>n</i>)
<i>c</i>	Command status
	. Not requested
	* Command issued or job submitted
	L Command limit reached (CLM= <i>n</i>)
	D Command delayed (CDL= <i>n</i>)
<i>d</i>	Abend status
	. Not requested
	* Abend requested for task
	L Abend limit reached (ALM= <i>n</i>)
	D Abend delayed (ADL= <i>n</i>)

The following pairs of line commands respectively display two types of statistics for each of the described items related to active tasks. The first command displays the count or number of occurrences while the second command displays the rate. In some cases, only one command exists:

Command To Display Count	Command To Display Rate	Description Of Item For Which Statistics Are Being Displayed
ATDB	ARDB	Database Requests
ATRR	ARRR	Records Requested
ATRU	ARRU	Records Current of Run-Unit
ATRC		Records Requested to Current of RU ratio
ATCN	ARCN	CALC Records No-Overflow
ATCO	ARCO	CALC Records Overflow
ATVN	ARVN	VIA Records No-Overflow
ATVO	ARVO	VIA Records Overflow
ATOF		Percentage of all CALC or VIA records that Overflowed
ATBU		Buffer Utilization Ratio
ATPQ	ARPQ	Pages Requested
ATPR	ARPR	Pages Read
ATPD		Pages Read per DB Call ratio
ATPW	ARPW	Pages Written
ATIO	ARIO	I/Os (pages read + written)
ATTS	ARTS	System mode CPU time
ATTU	ARTU	User mode CPU time
ATTC	ARTC	Total CPU time

Note: _____

Rates (count per second) reflect the activity since the previous display or since the start of the task.

ADS/O Dialog Display Line Commands

Command	Display
ADLG	Dialog Name (Initial/Current Dialog)
ADLL	Current Link Level
ADLN	Highest/Lowest Link Level
ADLD	Link Dialog commands (E/I)
ADLP	Link Program commands (E/I)
ADLV	Leave ADS/O commands (E/I)
ADLA	Leave Application commands (E/I)
ADIN	Invoke commands (E/I)
ADTC	Transfer commands (E/I)
ADRT	Return commands (E/I)
ADRC	Return Continue commands (E/I)
ADGD	Get Detail commands
ADND	Put New Detail commands
ADCD	Put Current Detail commands
ADSG	Scratch Get commands
ADSP	Scratch Put commands
ADSD	Scratch Delete commands
ADDS	Display commands (E/I)
ADDC	Display Continue commands (E/I)
ADWP	Write to Printer commands
ADRB	High/Low Report Blocks Used
ADAB	Abort commands (E/I)
ADPE	Premap/Response Process Executions
* (E/I) *	Two numbers will be displayed showing the number of Explicit and Implicit uses of the command.

SQL Statistics - IDMS 12.0 and Up

Command	Description
ATCS	SQL Commands executed
ATRF	Number of Rows fetched
ATRI	Number of Rows inserted
ATRD	Number of Rows deleted
ATRM	Number of Rows modified (updated)
ATRS	Number of Sorts performed/Rows sorted
ATAR	Number of AM recompiles

Active Task Horizontal Display

Information for active tasks can be displayed in a horizontal format. That is, the displays follow a more traditional report format. The information for each active task displays on a single line, with further active tasks displaying on additional lines.

The ATHL line command will display one of four fixed formats. A format number, 1 through 4, may be specified with the ATHL line command. ATHL will display the specified report format. When the format number has not been specified, a default format number is selected and may be adjusted using the .RIGHT control command to add 1 to the format number, or .LEFT to subtract 1.

In [Figure 112](#), the active tasks displayed by ATHL are selected using the selection keywords specified via the ATSL line command, described in ["Active Task Selection" on page 165](#).

Figure 112 • ATHL screen

```

COMMAND:_____ATHL      11:48:12.7  93.299  97.62% .TUT FOR TUTORIAL
.  IDMS Active Task Data, horizontal display

IDMS IDMSDC12      V120  IDMS INTERFACE ACTIVE  TASKS:  14      .00/SEC

.  Use ATSL selection parms to select active tasks for display.
ATSL TYP=UE

.  Specify 1, 2, 3, or 4 for the ATHL display format number.
ATHL 1 1/4 TaskCD  Program Wait ECB  Regs  I/O  CPU%  Lock  Stg Waiting
+   20336 ADS2     ADSOMAIN DBIO RD   44.1  18.2  1.90%   7  62336
+   20367 ADS2     ADSOMAIN DBIO RD  132.8   .0   .17%   0  33280
+   20362 MMFT010P MMFA0012 INTERVAL  21.6   2.7   .45%   0  34240
+   20366 MMFT050  MMFA0050 DBIO RD  120.8  24.1   .39%   0  38784
+   20358 ADS2     ADSOMAIN          41.3  12.9  1.68%   0  29568
+   20359 ADS2     ADSOMAIN DBIO RD   65.1   6.4  2.42%   5  26304
+   20360 ADS2     ADSOMAIN DBIO WR   23.9   7.8  1.02%   0  29568

```

In the example above, the ATSL keywords have selected statistics for online and external active tasks. The ATHL line command displays selected active task statistics according to the specified formats.

[Figure 113](#) shows all four formats:

Figure 113 • ATSL screen

IDMS	IDMSDC12	V120	IDMS INTERFACE ACTIVE	TASKS:	18	2.85/SEC					
ATSL TYP=UE											
ATHL	1	1/4	TaskCD	Program	Wait	ECB	Reqs	I/O	CPU%	Lock	Stg Waiting
+	20336	ADS2	ADSOMAIN	DBIO	RD		44.1	18.2	1.90%	7	62336
+	20367	ADS2	ADSOMAIN	DBIO	RD		132.8	.0	.17%	0	33280
+	20362	MMFT010P	MMFA0012	INTERVAL			21.6	2.7	.45%	0	34240
+	20366	MMFT050	MMFA0050	DBIO	RD		120.8	24.1	.39%	0	38784
ATHL	2	2/4	TaskCD	UserID	L-term	System	User	RCE	RLE	DPE	ILE Stg HWM
+	20336	ADS2	CXZVNGC	TRLTE003		.06S	.01S	12	11	8	0 62336
+	20367	ADS2	DJB3754	DCLTE062		.00S	.00S	7	10	7	0 33280
+	20362	MMFT010P	DMGVSTE	TRLTE020		.01S	.00S	23	31	10	0 34240
+	20366	MMFT050	LASKCNI	DCLTE007		.01S	.00S	14	17	6	0 38784
ATHL	3	3/4	TaskCD	DB	Rq	Page	Rq	Rec	Cur	Page	Rd Page Wr O-flow%
+	20336	ADS2		104		312		312		48	43 0
+	20367	ADS2		7		1		1		0	0 0
+	20362	MMFT010P		39		19		32		13	5 0
+	20366	MMFT050		35		23		28		15	7 0
ATHL	4	4/4	TaskCD	SQL	Cmd	Row	Fet	Row	Ins	Row	Upd Row Del Sorts Rows
+	20336	ADS2				0		0		0	0 0 0 0
+	20367	ADS2				0		0		0	0 0 0 0

The following text describes the statistics displayed under each format:

ATHL Format 1

Column Heading	Description
TaskCD	Task Code used to invoke the task
Program	Program executing the task
Wait ECB	ECB code describing the wait
Reqs	Record request rate
I/O	Page Input and Output (read or write) rate
CPU%	System + user mode CPU utilization
Lock	Locks currently being held
Stg	Storage allocated to the task
Waiting	Time waiting on the ECB, (accuracy +/- 1.0 sec)

ATHL Format 2

Column Heading	Description
TaskCD	Task Code used to invoke the task
UserID	User ID associated with the task
L-term	Logical terminal ID
System	Total System mode CPU time used by the task
User	Total User mode CPU time used by the task
RCE	Current number of RCEs in use
RLE	Current number of RLEs in use
DPE	Current number of DPEs in use
ILE	Current number of ILEs in use
Stg HWM	Storage high-water-mask

ATHL Format 3

Column Heading	Description
TaskCD	Task Code used to invoke the task
DB Rq	Total number of Database calls
Page Rq	Total number of page requests
Rec RQ	Total number of records requested
Rec Cur	Total number of records current of run unit
Page Rd	Total number of pages read
Page Wr	Total number of pages written
O-flow%	Percentage of CALC or VIA records written that overflowed

ATHL Format 4

Column Heading	Description
TaskCD	Task Code used to invoke the task
SQL Cmd	Total number of SQL commands executed
Row Fet	Total number of rows fetched
Row Ins	Total number of rows inserted (added)

Column Heading	Description
Row Upd	Total number of rows updated
Row Del	Total number of rows deleted
Sorts	Total number of sorts performed
Rows	Total number of rows sorted

Active Task Detailed Display

The ATZZ line command provides a detailed display (see [Figure 114](#)) of the statistics for a single active task. The active task must be identified through the SPY feature by using cursor placement. Refer to ["SPY Feature" on page 34](#) for guidelines on using SPY.

Figure 114 • SPY screen

```
COMMAND:_____ SPYIAT 12:48:54.5 93.222 95.00% SPY SCREEN ACTIVE
```

```
IDMS IDMSDC12          V120  IDMS INTERFACE ACTIVE  TASKS: 18  2.85/SEC
+      *** TASK 20148 EMPQ07 CPU RATE = 13.55% (T12) ***
```

```
ATZZ ID: 20148  Code:EMPQ07      Status:  EXEC      Tran Tm: 2.49S
+  User:EMPTST1  Prog:EMPI0711    Wait:           Wait Tm: 2.08S  .0151S
+  Lterm:LTEUCF01 Dialog:         Waiting:         Syst CPU:  .41S  13.55%
+  RCE: 74  DPE: 2  Locks: 4  Pri: 64(100)  User CPU:
+  RLE: 40  ILE: 0  Total: 175  Stg: 90752  Tot CPU:  .41S  13.55%
+  DB Req: 138  55.2  Page Rq: 138  55.2  Calc-O: 0
+  Rec Req: 182  72.8  Page Rd: 29  11.6  Via-O: 0
+  Rec Cur: 116  46.4  Page Wr: 0  .0  O-flow%:
+  Req->Cur Ratio: 1.5  Page I/O: 29  11.6
+  IDXTASK TCD: EMPQ07  EXA: 12/*..
+  SQL Cmds: 14  Rows Fet: 29  Rows Ins: 0  Sorts: 0
+  Recomp: 0  Rows Del: 0  Rows Upd: 0  Rows: 0
```

```
.  To select another task for ATZZ, enter .SPY after COMMAND:
.  place the cursor on the desired task, and press enter.
```

```
ATSL TYP=UE
```

ATHL	1/4 TaskCD	Program	Wait	ECB	Reqs	I/O	CPU%	Lock	Stg	Waiting
+	20148	EMPQ07	EMPI0711		55.2	11.6	13.55%	4	90752	
+	20336	ADS2	ADSOMAIN	DBIO RD	44.1	18.2	1.90%	7	62336	
+	20367	ADS2	ADSOMAIN	DBIO RD	132.8	.0	.17%	0	33280	

In the example above, the SPYIAT screen was displayed after the .SPY command identified task 20148. The ATZZ line command displays the detailed statistics for task 20148.

The following tables describe the fields on the display provided by the ATZZ command:

Line 1

Field	Description										
ID	Task ID number										
Code	Task code used to invoke the task										
Status	Task status, as follows: <table> <tr> <td>WAIT</td><td>Task waiting for a response from IDMS</td></tr> <tr> <td>EXEC</td><td>Task currently executing</td></tr> <tr> <td>ABEND</td><td>Task is abending</td></tr> <tr> <td>READY</td><td>Task is ready to execute, waiting to be dispatched</td></tr> <tr> <td>NEW TASK</td><td>New task, not yet dispatched</td></tr> </table>	WAIT	Task waiting for a response from IDMS	EXEC	Task currently executing	ABEND	Task is abending	READY	Task is ready to execute, waiting to be dispatched	NEW TASK	New task, not yet dispatched
WAIT	Task waiting for a response from IDMS										
EXEC	Task currently executing										
ABEND	Task is abending										
READY	Task is ready to execute, waiting to be dispatched										
NEW TASK	New task, not yet dispatched										
Tran Tm	Transaction time, amount of time since the task began executing										

Line 2

Field	Description
User	User ID associated with the task
Prog	Program name executing the task
Wait	ECB wait code, displayed if the task is currently waiting
Wait Tm	Total wait time for the task and the average wait time per database request

Line 3

Field	Description
Lterm	Logical terminal ID associated with the task
Dialog	ADS dialog name being executed
Waiting	Amount of time waiting on the current IDMS request, accurate to +/- 1.0 seconds
Syst CPU	System mode CPU time and utilization used in processing IDMS requests by the task

Line 4

Field	Description
RCE	Current number of Resource Control Elements (RCEs) used by the task
DPE	Current number of Deadlock Prevention Elements (DPEs) used by the task
Locks	Number of locks currently being used by the task
Pri	Dispatching priority of the task, HEX(DEC)
User CPU	User mode CPU time and utilization used in executing user application code

Line 5

Field	Description
RLE	Current number of Resource Link Elements (RLEs) used by the task
ILE	Current number of Interval Lock Elements (ILEs) used by the task
Total	Total number of locks acquired by the task
Stg	Storage allocated to the task
Tot CPU	Total CPU time and utilization used by the task

Line 6

Field	Description
DB Req	Database requests—total and rate
Page Rq	Page requests—total and rate
.Calc-O	CALC overflow records written—total and rate

Line 7

Field	Description
Rec Req	Records requested/total and rate
Page Rd	Pages read/total and rate
VIA-O	VIA overflow records written/total and rate

Line 8

Field	Description
Rec Cur	Records current of run unit/total and rate
Page Wr	Pages written?total and rate
O-flow%	Percentage of VIA and CALC records written that overflowed

Line 9

Field	Description
Req->Cur Ratio	Ratio of records requested to records current of run unit
Page I/O	Page I/Os/total and rate

Line 10

Field	Description
IDXTASK TCD	Code used by PreAlert IDMS Exception Analysis to match task exception definitions
EXA	Exception definitions/number and status. Refer to the ATXG line command for a description of the status display

Line 11

Field	Description
SQL Cmds	Number of SQL commands executed
Rows Fet	Number of rows fetched
Rows Ins	Number of rows inserted (added)
Sorts	Number of sorts performed

Line 12

Field	Description
Recomp	Number of recompiles performed
Rows Del	Number of rows deleted
Rows Upd	Number of rows updated
Rows	Number of rows sorted

Note:

Lines 11 and 12 are displayed only when one or more SQL commands have been executed by the task. These lines are not displayed for non-SQL tasks.

Active Task Plots

The ATPL line command plots specific statistics for selected active tasks. Keywords are used to select active tasks for display and to specify the statistic to be plotted.

Select the active tasks in one of three ways:

- The following selection keywords are specified with the ATPL line command. They are used to select the active tasks.

TCD= task code masks

TCX= task code for exception analysis

PNM= program name

TYP= active task types

MIN= minimum value

SRT= sort field keywords

The TCD=, TCX=, and PNM= keywords are mutually exclusive; only one may be used at a time.

- Active tasks selected in a previous ATID line command. If no selection keywords have been used, the plot will include only the active tasks selected in a previous ATID line command.

- If neither the selection keywords nor the ATID line command has been used, the MIN=1 default is used to select active tasks where the value of the plot field is 1 or more.

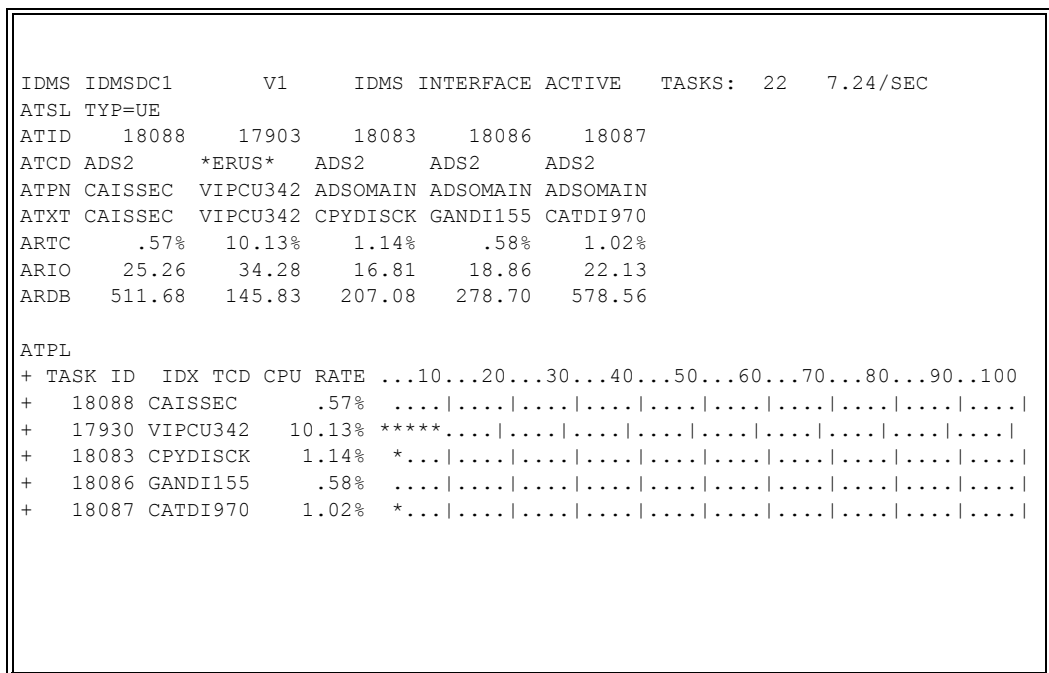
Keyword	Function
TCX=xxx	Specifies one to eight task code masks to select active tasks for display. The tasks will be selected by the task code used with IDMS Active Task Exception Analysis, displayed by the ATXT line command. The task codes may be masked using an asterisk (*).
TCD=xxx	Specifies one to eight task code masks to select active tasks for display. The tasks will be selected by the task code displayed by the ATCD line command. The task codes may be masked using an asterisk (*).
PNM=xxx	Specifies one to eight program name masks to select active tasks. The tasks are selected by the program name displayed by the ATPN line command. The program names may be masked using an asterisk (*).
TYP=xxx	Specifies active task types selected for display, as follows. Default is UE. U User (online) tasks E External tasks S System tasks
FLD=xxx	Specifies the field to be plotted, as follows. Default is ARTC. ATSO Storage size ARDB Database request rate ARRR Record request rate ARIO Input and Output rate ARTC Total CPU rate
SRT=xxx	Specify the sort field. Defaults to the plot field.
SRT<xxx	Specify the sort field, ascending sequence.
SRT>xxx	Specify the sort field, descending sequence. Possible sort field keyword values are as follows: ATCD Task code ATID Task ID ATPN Program Name

Keyword	Function
	ATXT Task Code for Active Task Exception Analysis ATSO Storage size ARDB Database request rate ARRR Record request rate ARIO Input and Output rate ARTC Total CPU rate
PLT= <i>nnn</i>	Specifies the plot measurement scale. If the specified scale is less than 50, the scale is rounded up to the next multiple of 10. If greater than 50, it is rounded up to the next multiple of 50. The defaults for the scale follow: ATSO 500 K bytes ARDB 200 DB requests per second ARRR 500 Records requests per second ARIO 100 Input and Output per second ARTC 100 percent
MIN= <i>nnn</i>	Specifies the minimum value to be plotted; default is 1. Devices with the selected value less than the minimum are not displayed.
YEL= <i>nnn</i>	Specifies the yellow plot threshold. The yellow plot threshold is specified as a percentage of the plot measurement scale. When the size of the plot exceeds the yellow threshold, the plot will be displayed in yellow, if color support is active. Default is specified in the userdata UDPARMS macro, PLOTYEL keyword.
RED= <i>nnn</i>	Specifies the red plot threshold. The red plot threshold is specified as a percentage of the plot measurement scale. When the size of the plot exceeds the yellow threshold, the plot will be displayed in red if color support is active. If color support is not active, the plot will be highlighted. Default is specified in the userdata UDPARMS macro, PLOTRED keyword.

Keyword	Function
EXA= <i>x</i>	Specifies the exception color option. Plots will be displayed in white (or highlighted) when an exception occurs for the plot field. The exception color option has precedence over the red and yellow color options. If the exception has occurred, the plot is displayed in white regardless of the red and yellow thresholds. If the exception ID does not occur, the red and yellow color options may be suppressed. Possible keyword values are: <ul style="list-style-type: none"> Y Request exception color option. O Request exception color option; suppress red and yellow when the exception has not occurred.

[Figure 115](#) shows a sample ATPL line command plot:

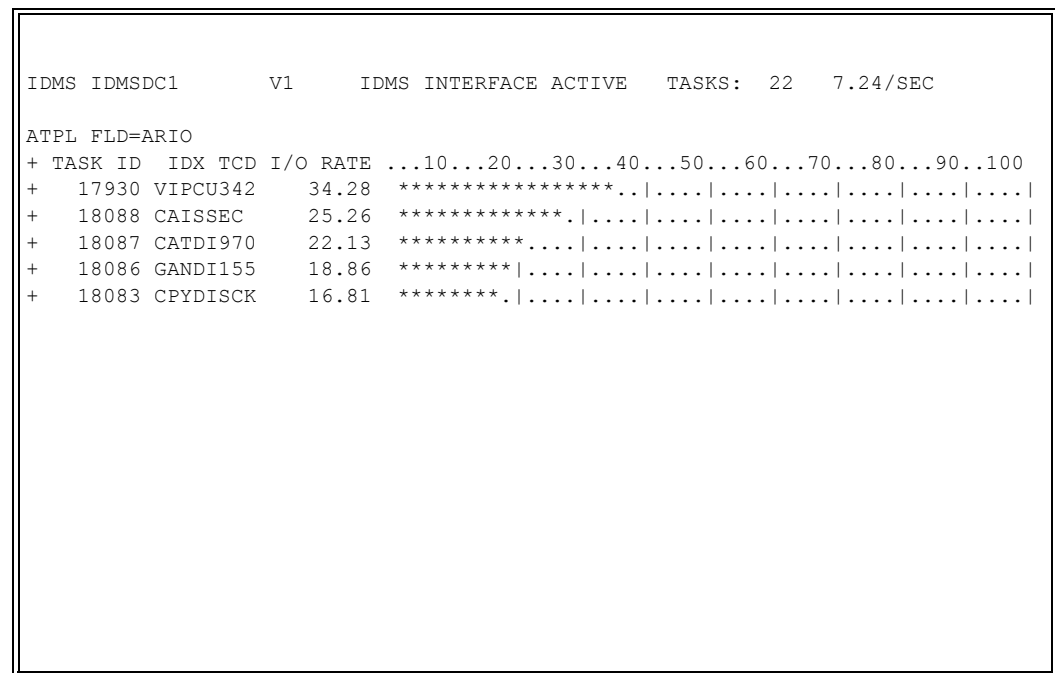
Figure 115 • ATPL line command



In [Figure 115](#), the ATPL line command plotted the CPU utilization for the active tasks selected by the preceding ATID line command. The tasks were displayed in the same order as in the ATID line command.

In [Figure 116](#), the I/O rate was plotted for all online user and external active tasks. The tasks were displayed in descending order by the I/O rate.

Figure 116 • ATPL line command



Active Task - ECB Wait Codes List

The following list of ECB Wait Codes and their definitions offers a brief description of each ECB Wait Code as displayed on the ATEW line command.

ATEW Display	ECB ID(S)	Definition
3280 RET	32	3280 Printer Retry
AREALOCK	29	Run Unit Arealock
BATCH OS	44	Batch Operating System ECB
BTAM POL	140	BTAM Polling Delay
BTAM SRV	141	BTAM External Service
BTAMLINE	143	Remote BTAM Line
BUFFER	1	No Buffers Available
BUFR EXC	3	Buffer Exclusive ECB

ATEW Display	ECB ID(S)	Definition
BUFR SHR	2	Buffer Share Lock ECB
CCE ECB	128	DBRC Unsolicited Request
CCE UPDT	129	DBRC Ready
CCE VARY	34	Internal Vary Task
CHK USER	130/131	Check User Task
DB TASK	178	Database Heliot Task
DB VARY	41	Database Driver Waiting for Area
DBIO DRV	39	Database Input and Output Service Driver
DBIO JRN	170	DBIO Journal Write
DBIO RD	43/168/182	DB Input and Output Read (Driver)
DBIO TSK	181	Database Input and Output Driver
DBIO VSM	169	VSAM DBIO Request
DBIO WRT	36/167/176	DBIO Write (Driver)
DBKEY LK	14	Lock(s)
DBRCECB	30	Database Resource Controller
DDS ATTN	166	DDS Attention Wait
DDS BTAM	164	DDS BTAM Input and Output ECB
DDS READ	162	DDS VTAM Read
DDS WRIT	163	DDS VTAM Write
DMCJHECB	160	Journal Header (External ECB)
ENQ CNTL	7	Enqueue on a Specific Resource
ERUS REQ	134	Request from External Run Unit
ERUS SRV	135	DBRC Wait on External Service
EXT TASK	136	External Task Check User
EXTERNAL	132	External Task ECB
FCBXECB	10	File Control ECB
GQ-WAIT	48	Global Queue Table Entry ECB
HICCUP	147	Hiccup Wait

ATEW Display	ECB ID(S)	Definition
IDBS ECB	138	Subschema Control IDBMSCOM ECB
IDWUPECB	11	Not Documented
IIEPECB	12	Not Documented
ILE LOCK	179	Interval Lock Element (ILE)
INTERVAL	137	Interval (SETTIME)
JBCHECB	31	Journal Header
JOBMGT	49/191	Job Management Spooler Communication Block
JRNL BUF	8/9/13	Journal Buffers
JRNL DRV	37/40/177	Journal Driver
JRNL FRG	180	Journal Driver Fragment Input and Output
JRNL WRT	186	Journal Write Error
L-TERM	15	Logical Terminal
LINE DVR	21	Line Driver ECB
LOADER	4/158	Program Loader
LOCAL RQ	139	Local Run Unit Wait
LOG FILE	5/133	Log File
LTE WAIT	17	Wait for Any L-Term
MPMODE	183	Multi-processing Mode Table
MSG RPLY	142	Message Replay
MST-TERM	16	*Master* Central Terminal ECB
OMCGBECB	35	Not documented
P-TERM	23	Physical Terminal (Input)
PDE-LOCK	19	Program Definition Entry
PERFMON	46	PERFMON Service Driver ECB
PGM LOAD	20	Program Load
PM DRVR	187	PERFMON Service Driver

ATEW Display	ECB ID(S)	Definition
PM ONLRQ	188	PERFMON Online Request
PRG/RNT	18	Program/Reentrant Pools
PRNT TSK	145	Print Task
PURGE DB	42	Purge Database Area
PTE READ	146	P-Term Unsolicited Read
Q-WAIT	47	Queue Single-Thread ECB
QUEUE WT	149	Queue Area
QUIESCE	184	Database Area Quiesced
RCE ECB	150	Resource Control Wait
RUN UNIT	151	System Run Unit
S/S TERM	148	Start/Stop Terminal
SCRATCH	45	Scratch Area
SERV DRV	38	Service Driver (Non-Input and Output)
SHUTDOWN	190	CSA Shutdown ECB
SIM-LINE	22	Line Driver ECB for Simulated Line
SMFWRITE	189	SMF Write Request
STG-WAIT	24	Storage (Storage Pool ECB)
SUSPEND	185	Run Unit Suspended
TASK-DCE	25	Waiting for a DCE (Dispatch)
TASK ID	26	General PURPOSE TASK ECB
TERM I/O	165	Any Terminal Input and Output Wait
TIMER WT	161	Timer Wait
TJH-FREE	27	Terminal Journal Block Free
TJH-STAL	28	Terminal Journal Header Stalled
TRAN LOG	6	Transaction Log File (DDLCTLF)
UCF LINE	144	UCF Line

ATEW Display	ECB ID(S)	Definition
USER ECB	156/157	User ECB Wait
VTAM LGN	153	VTAM Logon
VTAM MGE	33	VTAM Mode Groups
VTAM RCV	171	VTAM Receive
VTAM R	1154	VTAM Read Initial
VTAM RPL	155	VTAM Input and Output (RPL Based)
WTL RPLY	152	# WTL Reply
WTOR ECB	159	DBRC WTO Reply

4

Run Unit Data

These sections provide information regarding the various Run Unit Data provided by PreAlert.

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Run Unit Selection

The RUSL line command is used to specify selection criteria, which is then used by the RUID line command to select run units for display. The RUSL line command allows you to enter keywords to restrict the run unit display by type, schema name, or subschema name. The RUSL line command is usually followed by the RUID line command. RUSL only allows entry of the selection keywords; actual selection occurs in the RUID line command.

Keyword	Description
TYP=xxx	Specifies run unit type parameters. Run units are selected by type. U User (online) run units E External run units S System (driver) run units
SCH= <i>mask (s)</i>	Specifies one to eight schema name masks. Run units are selected by schema name. The RUSN line command displays the schema name.

Keyword	Description
SSC= <i>mask (s)</i>	Specifies one to eight subschema name masks. Run units are selected by subschema name. The RUSS line command displays the subschema name.
REP= <i>xxx</i>	Specifies the Auto-repeat option. When the number of run units selected for display exceeds the number that can be displayed across the screen, the line commands are repeated until all selected run units are displayed. Refer to "Auto-repeat Option" on page 27 for further information.
	Y Request Auto-repeat option
	N Suppress Auto-repeat option
SRT= <i>xxx</i>	Specify the sort field, default sequence. The display of selected run units is sorted on the specified field by using a default sort sequence.
SRT< <i>xxx</i>	Specify the sort field, ascending sequence. The display of selected run units is sorted in ascending order on the specified field.
SRT> <i>xxx</i>	Specify the sort field, descending sequence. The display of selected run units is sorted in descending order on the specified field.
	Valid sort field keyword values are as follows:
RUAN	Area name
RUCN	CALC no overflow records
RUCO	CALC overflow records
RUDB	Database requests
RUIB	Index levels searched
RUIE	SR7/SR8 index records erased
RUIL	Index levels searched
RUIO	Index orphan records adopted
RUIS	SR8 index record splits
RUIW	SR7/SR8 index records written
RUKP	DB Key page number
RULC	Total lock requests
RULT	Total locks held
RUPN	Program name

Keyword	Description
RUPQ	Pages requested
RUPR	Pages read
RUPW	Pages written
RURC	Records current of run unit
RURN	Record name
RUSN	Schema name
RUSS	Subschema name
RUVN	VIA no-overflow records
RUVO	VIA overflow records

In [Figure 117](#), the following are shown: the RUSL keywords, TYP=UE, and selected online user and external run units.

Figure 117 • RUSTAT1 screen

```

COMMAND:          RUSTAT1   8:41:28.4  92.052  97.20% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1        IDMS INTERFACE ACTIVE   TASKS:  24   7.33/SEC
RUSL TYP=UE
RUID 0010DB95 0010DBB2 0010DBB3 0010DBB6 0010DBBE 0010DBBF
RUIN 1104789 1104818 1104819 1104822 1104830 1104831
RUTI 20336 20359 20360 20362 20366 20367
RUTP DBDC DBDC DBDC DBDC DBDC DBDC
RUST I H 0300 I H 0300 I A 0300 A 0000 I A 0300 I A 0300
RUPN GNMDU230 AAPDI020 GANDI105 MMFA0010 MMFA0050 GANDI140
. Run Unit Database Activity
RUSN SCHMGAS SCHMIMP SCHMGAS MMFSCHEM MMFSCHEM SCHMGAS
RUSS GNMSU500 AAPSI070 GANSI100 MMFSUB01 MMFSUB01 GANSI400
RUDM DMC GAS DMCIMP DMC GAS MMFDMCL MMFDMCL DMC GAS
RUAN NOMVOLUM INVOICE- GANRQST- MMF-SYST MMF-SYST GANRQST-
+ -AREA AREA AREA EM-AREA EM-AREA AREA
RURN PRTYVOL INVCDTL MTRRQST MMF-SYST MMF-TASK FOPRQST
+ EM
RUFN GASTE IMPINVC3 GANRQST MMFILE1 MMFILE1 GANRQST
RUVS DBAX80 DB1X89 DB1X8I DBAX80 DBAX80 DB1X8I
RUKP 6169433 1214306 6856537 2607910 2608984 6825607
RUKL 1 27 4 1 1 10
RUKO
=====

```

Run Unit Selection by Active Task

Run Unit selection can also be based on the active task display. The run units will only be selected if their task ID (RUTI) matches the task ID (ATID) of the displayed active tasks. This occurs when active tasks have been displayed and no run unit selection keywords were specified in RUSL. If an active task has multiple run units, only the last run unit will be displayed.

Run unit data, when displayed with Active Task displays, will be included with the Active Task Auto-repeat option when selected; thus, the entire block is repeated, as necessary, to display all selected Active Tasks. [Figure 118](#) is an example of this.

Figure 118 • ATRU screen

COMMAND:	_____	ATRU	8:41:17.3	92.052	87.02%	.TUT FOR TUTORIAL
IDMS	IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS:	24 7.33/SEC
ATSL	TYP=UE					
ATID	20336	20367	20362	20366	20358	20359 20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2 ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN ADSOMAIN
ADLG	GNMDU230	GANDI140			GANDI100	AAPDI020 GANDI105
ATEW	DBIO RD	DBIO RD	INTERVAL	DBIO RD	DBIO RD	DBIO WR
ATST	WAIT	WAIT	WAIT	WAIT	EXEC	WAIT WAIT
ATTT	2.35S	.05S	1.79S	.28S	2.31S	2.31S 2.29S
.	RELATED RUN UNIT DATA BASE ACTIVITY					
RUSL						
RUID	0010DB95	0010DBBF	0010DBB6	0010DBBE	0010DBB2	0010DBB3
RUTI	20336	20367	20362	20366	20359	20360
RUPN	GNMDU230	GANDI140	MMFA0010	MMFA0050	AAPDI020	GANDI105
RUAN	NOMVOLUM	GANRQST-	MMF-SYST	MMF-SYST	INVOICE-	GANRQST-
+	-AREA	AREA	EM-AREA	EM-AREA	AREA	AREA
RURN	PRTYVOL	FOPRQST	MMF-SYST	MMF-TASK	INVCDTL	MTRRQST
+			EM			
RUSS	GNMSU500	GANSI400	MMFSUB01	MMFSUB01	AAPSI070	GANSI100
RUSN	SCHMGAS	SCHMGAS	MMFSCHM	MMFSCHM	SCHMIMP	SCHMGAS
RUVB	33FIND U	07FIND C	34 GET	31FIND O	10FIND N	31FIND O
RUST	I H 0300	I A 0300	A 0000	I A 0300	I H 0300	I A 0300

Since no keywords were specified in RUSL, the run units were selected to match the active tasks displayed.

Run Unit Display Line Commands

Command	Display
RUID	Run Unit ID, serial number assigned to the run unit. Displayed in HEX. Overflow indicator (+) available.
RUIN	Run Unit ID, same as RUID, displayed in decimal.
RUTI	Task ID for the task this run unit is assigned to.
RULI	Run Unit Local ID
RUTP	Run unit type, origin of run unit: <ul style="list-style-type: none"> • DBDC—online task • ERUS—external run unit
DBDC	Online task
BATC	External run unit
RUST	Run unit status (<i>abc dddd</i>) <ul style="list-style-type: none"> <i>a</i> DBMS status <i>b</i> Wait status <i>c</i> DBKEY lock status <i>dddd</i> Error status
RUPN	Run Unit Program Name
RUSN	Run Unit Schema Name
RUSS	Run Unit Subschema Name
RUDM	Run Unit DMCL Name
RUDN	Run Unit Database Name
RUDT	Date Run Unit began
RUTM	Time Run Unit began
RUSZ	Run Unit Subschema size

Database Statistics Display Line Commands

Command	Display
RULS	Select Locks (IDMS 10.2 only)
RULU	Update Locks (IDMS 10.2 only)
RULT	Locks Being Held
RULC	Total Locks Requested
RUDB	Run Unit Database Calls
RUJI	Run Unit Journal Images (before/after)
RUPQ	Run Unit Pages Requested
RUPR	Run Unit Pages Read
RUPW	Run Unit Pages Written
RURC	Records Current of Run Unit
RURR	Run Unit Records Read
RURU	Run Unit Records Updated but not committed
RUCN	Run Unit CALC Records No-overflow
RUCO	Run Unit CALC Records Overflow
RUVN	Run Unit VIA Records No-overflow
RUVO	Run Unit VIA Records Overflow

Record Indexing Statistics Display Line Commands

Command	Display
RUIB	Number of Index Searches/Number of Levels Searched
RUIE	Number of SR7/SR8 Index Records Erased
RUIL	Number of Index Levels Searched, Best Case / Worst Case
RUIO	Number of Index Orphans Adopted
RUIS	Number of SR8 Index Record Splits/Spawns
RUIW	Number of SR7/SR8 Index Records Written

Database Activity Display Line Commands

Current	Previous	Description
RUVB	RULV	Verb Number/Description
RUVP		Verb Parameters
RUAN	RULA	Area Name
RURN	RULR	Record Name
RUFN		File Name
RUVS		Disk Volser
RUKP	RULP	DB Key Page number
RUKL	RULL	DB Key Line number
RUKO		DB Key Owner (task ID or LTERM ID)

Note:

Previous database activity represents the results from the last verb issued. The information is obtained from the Subschema Control area for the task.

Batch External Run Units Display Line Commands

Command	Display
RUJB	Jobname
RUJC	Job class
RUJN	Job number

Run Unit Horizontal Display

Information for run units can be displayed in a horizontal format. That is, the display follows a more traditional report format. The information for each run unit is displayed on a single line, with further run units being displayed on additional lines.

The RUHL line command displays statistics in one of three fixed formats, specified with the line command by a number from 1 through 3. RUHL will display the specified report format. When the format number is not specified, a default format number is selected. It may be adjusted using the .RIGHT control command to add 1 to the format number or .LEFT to subtract 1.

The run units displayed by the RUHL command in [Figure 119](#) are selected using the selection keywords specified via the RUSL line command described in ["Run Unit Selection" on page 191](#).

Figure 119 • RUHL screen

```

COMMAND:_____ RUHL      11:55:35.0  93.299  93.00% .TUT for Tutorial
.  IDMS Run Unit, horizontal display

IDMS IDMSDC12      V120  IDMS INTERFACE ACTIVE  TASKS:  14      .00/SEC

.  Use RUSL selection parms to select run units for display.
RUSL TYP=UE

.  Specify 1, 2, or 3 for the RUHL display format number.
RUHL 1 1/3  RU ID Program  S.Schema Verb      Status  Rec N C      Locks
+          95468  GMBCU110  GMBSU100 33FIND U I H 0300      11      21
+          1104789  GNMDU230  GNMSU500 33FIND U I H 0300       4       7
+          1104818  AAPDI020  AAPSI070 10FIND N I H 0300       3       5
+          1104819  GANDI105  GANSI100 31FIND O I A 0300       0       0
+          1104822  MMFA0010  MMFSUB01 34   GET   A 0000       0       0
+          1104830  MMFA0050  MMFSUB01 31FIND O I A 0300       0       0
+          1104831  GANDI140  GANSI400 07FIND C I A 0300       0       0

```

In [Figure 119](#), the RUSL keywords request a statistical display for online and external run units.

The contents of the display is determined by the format number specified with the RUHL line command, as shown in [Figure 120](#).

Figure 120 • RUHL screen

IDMS	IDMSDC12	V120	IDMS INTERFACE ACTIVE	TASKS:	18	2.85/SEC
RUHL TYP=UE						
RUHL 1	1/3	RU ID	Program	S.Schema	Verb	Status Rec N C Locks
+		95468	GMBCU110	GMBSU100	33FIND U I H	0300 11 21
+		1104789	GNMDU230	GNMSU500	33FIND U I H	0300 4 7
+		1104818	AAPDI020	AAPSI070	10FIND N I H	0300 3 5
+		1104819	GANDI105	GANSI100	31FIND O I A	0300 0 0
+		1104822	MMFA0010	MMFSUB01	34 GET A	0000 0 0
+		1104830	MMFA0050	MMFSUB01	31FIND O I A	0300 0 0
+		1104831	GANDI140	GANSI400	07FIND C I A	0300 0 0
RUHL 2	2/3	RU ID	DB Rq	Page Rq	Rec Rq	Rec Cur Page Rd Page Wr Calc-O Via-O
+		95468	143711	412890	497224	112479 47621 732 21 0
+		1104789	104	312	312	48 43 0 0 0
+		1104818	151	178	178	144 15 0 0 0
+		1104819	55	45	55	32 18 0 0 0
+		1104822	9	1	2	1 0 0 0 0
+		1104830	31	19	24	15 7 0 0 0
+		1104831	7	1	1	0 0 0 0 0
RUHL 3	3/3	RU ID	Local ID	Date	Time	Task ID Job Name Number CIs
+		95468	BATC06:41:03	03/01/93	06.41.03	3486 TGMB100U JOB01614 B
+		1104789	DBDC00020336	03/01/93	08.41.14	20336

[Figure 120](#) shows the three formats produced by the RUHL line command.

RUHL Format 1

Column Heading	Description
RU ID	Run unit ID number, decimal notation
Program	Program executing the run unit.
S.Schema	Subschema used by the run unit
Verb	Current verb being executed
Status	Run unit status
Rec N C	Number of records updated but not committed
Locks	Current number of locks being held

RUHL Format 2

Column Heading	Description
RU ID	Run unit ID number, decimal notation
DB Rq	Total number of database requests
Page Rq	Total number of pages requested
Rec Rq	Total number of records requested
Rec Cur	Total number of records current of run unit
Page Rd	Total number of pages read
Page Wr	Total number of pages written
Calc-O	Total number of CALC overflow records
VIA-O	Total number of VIA overflow records

RUHL Format 3

Column Heading	Description
RU ID	Run unit ID number, decimal notation
Local ID	Run unit local ID
Date	Date run unit began
Time	Time run unit began
Task ID	Active task ID for task executing the run unit

Column Heading	Description
Job Name	Batch ERUS, job name
Number	Batch ERUS, JES job number
Cls	Batch ERUS, JES job class

Run Unit Detailed Display

The RUZZ line command provides a detailed display (shown in [Figure 121](#)) of the statistics for a single run unit. The run unit must be identified through the SPY feature by using cursor placement. Refer to ["SPY Feature" on page 34](#) for guidelines on using SPY.

Figure 121 • SPY screen

```

COMMAND:_____ SPYIRU   12:48:54.5  93.222  95.00%  SPY SCREEN ACTIVE

IDMS IDMSDC12          V120   IDMS INTERFACE ACTIVE   TASKS:  18   2.85/SEC

.  Run Unit detailed display for SPY feature.
RUZZ ID:           95468   Recs not committed:      11   Current Locks:      21
+ Local ID: BATC06:41:03   Date/Time:03/01/93 06.41.03   S.Schema: GMBSU100
+ Program: GMBUCU110      Area: GMBSEG01  EMPLAREA              Size:  5888
+ Verb: 33FIND U          File: GMBSEG01.EMPLOYEE            Volser: DBS001
+ Status: I H 0300      Record: EMPLOYEE                      DB Key:  77013   1
+ DB Reqs: 143711      Pages Req: 412890   Pages Rd:  47621   Calc-o:    21
+ Recs Req: 497224      Recs Cur: 112479   Pages Wr:    732   Via-o:     0
+ Batch Job: TGMB100U JOB01614  Class: B   Task ID:    3486

.  To select another run unit for RUZZ, enter .SPY after COMMAND:
.  place the cursor on the desired run unit, and press enter.

RUSL TYP=UE
RUHL   1/3  RU ID Program  S.Schema Verb      Status   Rec N C      Locks
+           95468 GMBUCU110 GMBSU100 33FIND U I H 0300      11      21
+           1104789 GNMDU230 GNMSU500 33FIND U I H 0300       4       7
+           1104818 AAPDI020 AAPSI070 10FIND N I H 0300       3       5
+           1104819 GANDI105 GANSI100 31FIND O I A 0300       0       0
+           1104822 MMFA0010 MMFSUB01 34   GET   A 0000       0       0
+           1104830 MMFA0050 MMFSUB01 31FIND O I A 0300       0       0
+           1104831 GANDI140 GANSI400 07FIND C I A 0300       0       0

```

In [Figure 121](#), the SPYIRU screen was displayed after the .SPY command identified run unit 95468. The RUZZ line command displays the detailed statistics for the run unit, as described in the following text.

Line 1

Field	Description
RUZZ ID	Run Unit ID number.
Recs not committed	Current number of records updated but not committed.
Current Locks	Current number of locks being held by the run unit.

Line 2

Field	Description
Local ID	Local ID of the run unit (identifies the source of the run unit).
Date/Time	Date and time the run unit began.
S.Schema	Name of the subschema used by the run unit.

Line 3

Field	Description
Program	Program being executed by the run unit.
Area	Database segment and area name currently being accessed.
Size	Size of the subschema, in bytes.

Line 4

Field	Description
Verb	IDMS verb number and type last executed.
File	Database segment and file name currently being accessed.
Volser	DASD volser where the files resides.

Line 5

Field	Description
Status	Run unit status, and last verb error code.
Record	Record name currently being accessed.
DB Key	Database key page and line number.

Line 6

Field	Description
DB Reqs	Database request total.
Pages Req	Page request total.
Pages Rd	Pages read total.
Calc-o	CALC overflow records written total.

Line 7

Field	Description
Recs Req	Records requested total.
Recs Cur	Records current of run unit total.
Pages Wr	Pages written total.
VIA-o	VIA overflow records written total.

Line 8

Field	Description
Batch Job	For batch external run unit, the job name and JES job number of the job executing the run unit.
Class	Batch job class.
Task ID	Task ID executing the run unit.

Note: _____

Line 8 displays for batch external run units only. It does not display for run units created by online tasks, or for external run units from some source other than a batch job.

5

Task Definitions

The following sections provide information regarding the various Task Definitions provided by PreAlert.

Task Definition Selection	205
Task Definition Selection by Active Task	207
Task Definition Display Line Commands	209

Task Definition Selection

The TKSL line command is used to specify selection criteria, which are then used by the TKCD line command to select Task Definitions for display. The TKSL line command allows you to enter keywords to restrict the task definition display by task code, program name, status, type, or security code.

The TKSL line command is usually followed by the TKCD line command. TKSL only allows entry of the selection keywords; actual selection occurs in the TKCD line command.

When task definitions are selected through TKSL keywords, the data is not included in Freeze Frame.

Keyword	Description
TCD= <i>mask (s)</i>	Specifies one to eight task code masks. Task definitions are selected by task code. The TKCD line command displays task codes.
PGM= <i>mask (s)</i>	Specifies one to eight program name masks. Task definitions are selected by program name. The TKPN line command displays the program name invoked by the task code.
STA= <i>xxx</i>	Specifies task definition status parameter. Task definitions are selected by status, enabled or disabled. The TKST line command displays the status.

Keyword	Description
TYP=xxx	E Enabled task definitions
	D Disabled task definitions
	Specifies task definition type parameter. Task definitions are selected by type, internal or external. The TKST line command displays the type.
SEC=nnn	I Internal (online) task definitions
	E External task definitions
	Specifies one to eight security code numbers. Task definitions are selected by the security code assigned to the task. The TKSC line command displays the security code.
REP=xxx	Specifies the Auto-repeat option. When the number of task definitions selected for display exceeds the number that can be displayed across the screen, the line commands are repeated until all selected task definitions are displayed. Refer to "Auto-repeat Option" on page 27 .
	Y Request Auto-repeat option
	N Suppress Auto-repeat option

In [Figure 122](#), the first TKSL selected task definitions by task code, TCD=DCMT*. The second TKSL selects task definitions by the program, PGM=ADSORUN*, invoked by the task.

Figure 122 • TASKDEFN screen

```

COMMAND:_____ TASKDEFN 13:58:53.8 92.052 98.81% .TUT FOR TUTORIAL
IDMS IDMSDC1 V1 IDMS INTERFACE ACTIVE TASKS: 21 5.17/SEC
. Use the TCD= keyword to select specific task definitions for
. display. An asterisk (*) is used as a mask character.
.
TKSL TCD=DCMT*
TKCD DCMT
TKPN RHDCMT00
TKST ENA/EXT
TKCT 920
=====
.
. Use the PGM= keyword to select task codes based on the program
. name invoked by the task code.
.
TKSL PGM=ADSORUN*
TKCD CMSTRACK CPEJUMP CPYJUMP TUTORIAL TBLMENU BRFMENU IMPTELE TGLDI001 +
TKPN ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1
TKST ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT
TKCT 0 0 0 0 0 0 0 0 0
=====
TKCD CONVERPR LISTBC PACFCINQ PACCLINQ PACROW PACSTAT MCBMENU TGLRPT +
TKPN ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1 ADSORUN1
TKST ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT ENA/EXT
TKCT 0 0 55 7 0 0 14 2
=====
===== 5 LINE(S) REPEATED =====

```

Task Definition Selection by Active Task

Task selection also can be based on the active task display. The task definitions selected will be the same as those that are used by the active task display. This occurs when active tasks have been displayed and no task selection criteria were specified in the TKSL line command.

When task definitions are selected from active task displays, the data is included in Freeze Frame.

Task Definition data, when displayed with Active Task displays, will be included with the Active Task Auto-repeat option when selected; thus, the entire block will be repeated as necessary to display all selected Active Tasks.

In [Figure 123](#), the task definitions were selected to match the active tasks displayed since no keywords were specified in TKSL.

Figure 123 • ATTK screen

COMMAND:	ATTK	8:42:12.6	92.052	90.89%	.TUT FOR TUTORIAL		
IDMS IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS:	24	7.33/SEC	
ATSL TYP=UE							
ATID	20336	20367	20362	20366	20358	20359	20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
ADLG	GNMDU230	GANDI140			GANDI100	AAPDI020	GANDI105
ATUI	CXZVNGC	DJB3754	DMGVSTE	LASKCNI	LLC1752	CPJ2294	ACW2861
ATST	WAIT	WAIT	WAIT	WAIT	EXEC	WAIT	WAIT
ATTT	2.35S	.05S	1.79S	.28S	2.31S	2.31S	2.29S
. RELATED TASK DEFINITIONS							
TKSL							
TKCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2
TKPN	ADSOMAIN	ADSOMAIN	MMFA0010	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
TKST	ENA/INT	ENA/INT	ENA/EXT	ENA/EXT	ENA/INT	ENA/INT	ENA/INT
TKCT	12426	12426	454	536	12426	12426	12426
TKRI	11	11	11	11	11	11	11
TKSI	30	30	30	OFF	30	30	30
TKSC	0	0	0	0	0	0	0
TKRT	1200	1200	1200	1200	1200	1200	1200
=====							

Task Definition Display Line Commands

Command	Display
TKCD	Task Code; Overflow indicator (+) available
TKPN	Program/Map invoked by Task
TKPR	Task Priority
TKSC	Task Security Code
TKCT	Task called Count
TKTC	Task current thread count
TKSI	Task Stall Interval
TKRI	Runaway Task Interval
TKRT	Task Resource Timeout Interval
TKRP	Task Resource Timeout Program
TKST	Task Status/Type
	Status: ENA - Task is Enabled
	DIS - Task is Disabled
	Type: EXT - Task invoked Externally
	INT - Task invoked Internally

6

Program Definitions

The following sections provide information regarding the various program definitions provided by PreAlert.

Program Definition Selection	211
Program Definition Selection by Active Task	214
Program Definition Display Line Commands	215

Program Definition Selection

The PRSL line command is used to specify selection criteria, which is then used by the PRNM line command to select Program Definitions for display. The PRSL line command allows you to enter keywords to restrict the program definition display by program name, security code, wait to load count, or status fields.

The PRSL line command is usually followed by the PRNM line command. PRSL only allows entry of the selection keywords; actual selection occurs in the PRNM line command.

When program definitions are selected through PRSL keywords, the data is not included in Freeze Frame.

Keyword	Description
PNM= <i>mask (s)</i>	Specifies up to eight program name masks. Program definitions are selected by name. The PRNM line command displays the program name.
SEC= <i>nnn</i>	Specifies one to eight security code numbers. Program definitions are selected by the security code assigned to the program. The PRSC line command displays the security code.
WTL= <i>nnn</i>	Specifies the wait to load count parameter. Program definitions are selected when their wait to load count matches or exceeds the specified value. The PRWL line command displays the wait to load count.

Keyword	Description
TYP=xxx	<p>Specifies program type parameters. Program definitions are selected by type (language). The PRTP line command displays the program type.</p> <p>A Assembler programs</p> <p>C Cobol programs</p> <p>M Map definitions</p> <p>O ADSO dialogs</p> <p>P PL/1 programs</p> <p>S Subschemas</p>
REN=xxx	<p>Specifies program reentrant type parameter. Program definitions are selected by the reentrant type. The PRRE line command displays the reentrant type.</p> <p>T Truly reentrant</p> <p>Q Quasi reentrant</p> <p>N Non reentrant</p>
RES=xxx	<p>Specifies program residency status parameter. Program definitions are selected if they are in, out, or permanently loaded. The PRRS line command displays the program residency.</p> <p>P Permanently loaded</p> <p>I Loaded, in program pool</p> <p>N Not loaded</p>
STG=xxx	<p>Specifies storage protection parameter. Program definitions are selected by storage protection setting. The PRSP line command displays the storage protection setting.</p> <p>Y Storage protection on</p> <p>N No storage protection</p>
STA=xxx	<p>Specifies program status parameter. Programs are selected by status, enabled or disabled. The PRST line command displays the status.</p> <p>E Enabled program definitions</p> <p>D Disabled program definitions</p>

Keyword	Description
REP=xxx	Specifies the Auto-repeat option. When the number of program definitions selected for display exceeds the number that can be displayed across the screen, the line commands are repeated until all selected program definitions are displayed. Refer to "Auto-repeat Option" on page 27 .
Y	Request Auto-repeat option
N	Suppress Auto-repeat option

[Figure 124](#) shows the PRSL keywords selected ADS/O dialogs (TYP=O) that are currently loaded (RES=I).

Figure 124 • PROGDEF1 screen

```

COMMAND: _____ PROGDEF1 13:58:28.4 92.052 99.62% .TUT FOR TUTORIAL
IDMS IDMSDC1 V1 IDMS INTERFACE ACTIVE TASKS: 21 5.17/SEC
. Use the PNM= keyword to select specific program definitions for
. display. An asterisk (*) is used as a mask character.
.
PRSL TYP=O, RES=I
PRNM ADSO@ML$ PACDA213 PACDI201 PACDI204 PACDI026 PACDI158 PACDI159 PACDI161 +
PRTPT ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN
PRGS ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD
PRSZ 448 28184 23316 20284 12484 16456 12984 3820
PRCC 1149 20 4 2 211 95 459 48
PRLC 1 6 1 1 1 28 45 33
=====
PRNM PACDI162 PACDI165 PACDI205 MCBDI222 MCBDI227 MCBDI236 MCBDI249 MCBDU200 +
PRTPT ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN
PRGS ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD
PRSZ 10992 8068 27556 6256 11304 11900 7236 8028
PRCC 1108 3965 23 2 65 5 8 26
PRLC 73 35 6 1 17 2 6 5
=====
===== 7 LINE(S) REPEATED =====
PRNM MCBDU202 MCBDU216 MCBDU230 MCBDU231 MCBDU232 MCBDU240 MCBDU251 MCBDU260 +
PRTPT ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN ADS/ONLN
PRGS ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD ENA/LOAD
PRSZ 12844 6488 16332 16484 22568 16740 16864 16328
PRCC 12 2 40 42 32 26 25 36
PRLC 7 2 8 10 6 8 6 12

```

Program Definition Selection by Active Task

Program selection can also be based on the active task display. The program definitions selected will be the same as those that are used by the active task display. This occurs when active tasks have been displayed and no program selection criteria were specified in the PRSL line command.

When program definitions are selected from active task displays, the data is included in Freeze Frame.

Program Definition data, when displayed with Active Task displays, will be included with the Active Task Auto-repeat option when selected; thus, the entire block will be repeated as necessary to display all selected Active Tasks. [Figure 125](#), the IDMS Interface Active screen, displays all active tasks.

Figure 125 • IDMS Interface Active screen

COMMAND:	ATPR	8:42:04.1	92.052	97.20%	.TUT FOR TUTORIAL		
IDMS IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS: 24	7.33/SEC			
ATSL	TYP=UE						
ATID	20336	20367	20362	20366	20358	20359	20360
ATCD	ADS2	ADS2	MMFT010P	MMFT050	ADS2	ADS2	ADS2
ATPN	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
ADLG	GNMDU230	GANDI140			GANDI100	AAPDI020	GANDI105
.	RELATED PROGRAM DEFINITIONS						
PRSL							
PRNM	ADSOMAIN	ADSOMAIN	MMFA0012	MMFA0050	ADSOMAIN	ADSOMAIN	ADSOMAIN
PRVR	1	1	1	1	1	1	1
PRSC	0	0	0	0	0	0	0
PRSZ	101936	101936	848	5240	101936	101936	101936
PRTP	ASMBLER	ASMBLER	ASMBLER	ASMBLER	ASMBLER	ASMBLER	ASMBLER
PRRE	TRUE-RNT	TRUE-RNT	TRUE-RNT	TRUE-RNT	TRUE-RNT	TRUE-RNT	TRUE-RNT
PRSP	NO PROT	NO PROT	NO PROT	NO PROT	NO PROT	NO PROT	NO PROT
PRST	ENABLED	ENABLED	ENABLED	ENABLED	ENABLED	ENABLED	ENABLED
PRRS	PERM-RES	PERM-RES	LOADED	LOADED	PERM-RES	PERM-RES	PERM-RES
PRCU	5	5	1	1	5	5	5
PRSW							
PRLW							
=====							

The program definitions were selected to match the active tasks displayed since no keywords were specified in PRSL.

Program Definition Display Line Commands

Command	Display
PRNM	Program Name; Overflow indicator (+) available
PRVR	Program Version number (IDMS 10.2 only)
PRTT	Program Type/Language
	COBOL COBOL program
	ASSEMBLER ASSEMBLER program
	SUBSCHMA Subschema definition
	MAP-DEFN Map definition
	ADS/ONLN ADS/Online DIALOG
	PL/1 PL/1 program
PRRE	Program reentry type
	QUASIRNT Program is quasi-reentrant
	TRUE-RNT Program is truly reentrant
	NON-RENT Program is not reentrant
PRSP	Program storage protection flag
	STG-PROT Storage protection on
	NO PROT No storage protection
PRST	Program status
	ENABLED Program is enabled for use
	DISABLED Program is disabled for use
PRRS	Program residency
	PERM-RES Program is permanently loaded
	LOADED Program is loaded
	NOT-LOAD Program is not loaded
PRGS	Program general status (status/residency)
PRSC	Program security code
PRSZ	Program size (bytes)
PRCU	Number of current users executing this program
PRSW	Number of current users in short wait

Command	Display
PRLW	Number of current users in long wait
PRCC	Program total times called
PRLC	Program total times loaded
PRWL	Program total times waited to load
PRCK	Program check count/threshold
PRDU	Program dump count/threshold

7

Database Areas

The following sections provide information regarding the various database area data provided by PreAlert.

Database Area Selection	217
Database Area Display Line Commands	222
Database Area Horizontal Display	225
Database Area Detailed Display	230
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Database Area Selection

The DBSL line command is used to specify selection criteria which are then used by the DBNM line command to select database areas for display. The DBSL line command allows you to enter keywords to restrict the database area display by area name, alias, segment, symbolic, schema, status, type, format, input and output rate, request rate, or exception status.

The DBSL line command is usually followed by the DBNM line command. DBSL only allows entry of the selection keywords; actual selection occurs in the DBNM line command.

Keyword	Description						
DNM= <i>mask (s)</i>	Specifies one to eight area name masks. Database areas are selected by their area name. The DBNM line command displays the area name.						
ANM= <i>mask (s)</i>	Specifies one to eight alias name masks. Database areas are selected by the alias name for the area. Alias names are available on IDMS 10.2 only. The DBAN line command displays the alias name.						
SEG= <i>mask (s)</i>	Specifies one to eight segment name masks. Database areas are selected by the segment name of the area. Segment names are used on IDMS 12.0 and up. The area name displayed by the DBNM line command includes the segment name.						
SYM= <i>mask (s)</i>	Specifies one to eight symbolic name masks. Database areas are selected by the symbolic name of the area. Symbolic names are used on IDMS 12.0 and up. The area name displayed by the DBNM line command included the symbolic name.						
SCH= <i>masks (s)</i>	Specifies one to eight schema name masks. Database areas are selected by schema name. The DBSC line command displays the schema name.						
STA= <i>xxx</i>	Specifies area status parameters. Database areas are selected by status, retrieval, update, or off-line. The DBST line command displays the status. <table> <tr> <td>R</td><td>Online, retrieval mode</td></tr> <tr> <td>U</td><td>Online, update mode</td></tr> <tr> <td>O</td><td>Offline</td></tr> </table>	R	Online, retrieval mode	U	Online, update mode	O	Offline
R	Online, retrieval mode						
U	Online, update mode						
O	Offline						
TYP= <i>xxx</i>	Specifies area type parameters. Database areas are selected by type, IDMS or VSAM. The DBTP line command displays the type. <table> <tr> <td>I</td><td>IDMS database</td></tr> <tr> <td>V</td><td>VSAM database</td></tr> </table>	I	IDMS database	V	VSAM database		
I	IDMS database						
V	VSAM database						

Keyword	Description
FMT=xxx	Specifies area format parameters. Database areas are selected by format, relational or network. The database format is available on IDMS 12.0 and up. The DBFM line command displays the format. N Network database R Relational database
IOR=nnn	Specifies input and output rate parameter. Database areas with a input and output rate equal to or higher than the specified value are selected for display. The DBIR line command displays the input and output rate.
RQR=nnn	Specifies record request rate parameter. Database areas with a record request rate equal to or higher than the specified value are selected for display. The DBRR line command displays the record request rate.
EXA=xxx	Specifies exception analysis status parameter. Database areas having one or more exceptions are selected for display. Refer to "IDMS Database Exception Analysis" on page 384. Y One or more exceptions N No exceptions
REP=xxx	Specifies the Auto-repeat option. When the number of database areas selected for display exceeds the number that can be displayed across the screen, the line commands are repeated until all selected database areas are displayed. Refer to the "Auto-repeat Option" on page 27. Y Request Auto-repeat option N Suppress Auto-repeat option
SRT=xxx	Specify the sort field, default sequence. The display of selected database areas is sorted on the specified field by using a default sort sequence.
SRT<xxx	Specify the sort field, ascending sequence. The display of selected database areas is sorted in ascending order on the specified field.
SRT>xxx	Specify the sort field, descending sequence. The display of selected database areas is sorted in descending order on the specified field.

Keyword	Description																														
	Possible sort field keywords are as follows:																														
	<table> <tr> <th><u>Keyword</u></th><th><u>Sort Field</u></th></tr> <tr> <td>DBNM</td><td>Area name</td></tr> <tr> <td>DBSC</td><td>Schema name</td></tr> <tr> <td>DBRD</td><td>Physical reads</td></tr> <tr> <td>DBWR</td><td>Physical writes</td></tr> <tr> <td>DBAN</td><td>Area alias name</td></tr> <tr> <td>DBRN</td><td>Reads found in buffer</td></tr> <tr> <td>DBRP</td><td>Percentage reads found in buffer</td></tr> <tr> <td>DBUT</td><td>Buffer utilization ratio</td></tr> <tr> <td>DBIO</td><td>Physical input and output count</td></tr> <tr> <td>DBIR</td><td>Physical input and output rate</td></tr> <tr> <td>DBRQ</td><td>Record request count</td></tr> <tr> <td>DBRR</td><td>Record request rate</td></tr> <tr> <td>DBLP</td><td>Area low page number</td></tr> <tr> <td>DBPG</td><td>Area page group number</td></tr> </table>	<u>Keyword</u>	<u>Sort Field</u>	DBNM	Area name	DBSC	Schema name	DBRD	Physical reads	DBWR	Physical writes	DBAN	Area alias name	DBRN	Reads found in buffer	DBRP	Percentage reads found in buffer	DBUT	Buffer utilization ratio	DBIO	Physical input and output count	DBIR	Physical input and output rate	DBRQ	Record request count	DBRR	Record request rate	DBLP	Area low page number	DBPG	Area page group number
<u>Keyword</u>	<u>Sort Field</u>																														
DBNM	Area name																														
DBSC	Schema name																														
DBRD	Physical reads																														
DBWR	Physical writes																														
DBAN	Area alias name																														
DBRN	Reads found in buffer																														
DBRP	Percentage reads found in buffer																														
DBUT	Buffer utilization ratio																														
DBIO	Physical input and output count																														
DBIR	Physical input and output rate																														
DBRQ	Record request count																														
DBRR	Record request rate																														
DBLP	Area low page number																														
DBPG	Area page group number																														
CNT= <i>nnn</i>	Specifies the area display count. Only the first <i>nnn</i> selected database areas are displayed. This can be used to limit the number of areas displayed with the DBHL line command.																														

In [Figure 126](#), the DBSL keywords are used to select all database areas sorted by the database area name.

Figure 126 • DBAREAS screen

```

COMMAND:_____ DBAREAS   8:47:02.0  92.052  97.66% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE   TASKS:  24   7.33/SEC
.  Database Area Displays - Sorted by Area Name
DBSL SRT=DBNM
DBNM AAR-AR-P AAR-BANK AAR-BOM- AAR-BTCH AAR-BUS- AAR-CAPA AAR-CARA AAR-CARA +
+  AY-AREA  -AREA   AREA    -AREA   AREA    UD-AREA  CT-AREA  UD-AREA
DBAN CAS-AR-P CAS-BANK CAS-BOM- AAR-BTCH CAS-BUS- CAS-CAPA CAS-CARA CAS-CARA
+  AY-AREA  -AREA   AREA    -AREA   AREA    UD-AREA  CT-AREA  UD-AREA
DBST UPDATE    UPDATE    UPDATE    UPDATE    UPDATE    UPDATE    UPDATE    UPDATE
DBTP IDMS DB   IDMS DB   IDMS DB   IDMS DB   IDMS DB   IDMS DB   IDMS DB   IDMS DB
DBLP 2372011 2533431 2501551 2200001 2369551 2533451 2566791 2564841
DBHP 2446050 2533440 2501560 2200400 2372010 2534200 2567090 2566790
DBSC CASSCHEM CASSCHEM CASSCHEM CASSCHEM CASSCHEM CASSCHEM CASSCHEM CASSCHEM
DBSN          1          1          1          1          1          1          1
DBRD   15872          3          3       5777       16002       749       630       1995
DBWR     420          3          3         24         6        14        125        229
DBRF   161918                13167      124843       1124       2922      11638
DBRP    91.07%                69.50%      88.63%      60.01%      82.26%      85.36%
DBUT    11.20          1.00          1.00       3.27       8.80       2.50       5.63       6.83
=====
DBNM AAR-CAT- AAR-COEA AAR-COST AAR-CPRA AAR-CRP- AAR-CUST AAR-HIST AAR-INDE +
+  AREA      UD-AREA  -AREA    UD-AREA  AREA      -AREA    -AREA    X-AREA
DBAN CAS-CAT- CAS-COEA CAS-COST CAS-CPRA CAS-CRP- CAS-CUST CAS-HIST CAS-INDE

```

Database Area Display Line Commands

Command	Display
DBNM	Area Name. If the area name is more than 8 bytes long, PreAlert uses 2 display lines for the complete area name. Overflow indicator (+) available.
DBAN	Area Alias Name. IDMS 10.2 only.
DBST	Database Status <ul style="list-style-type: none"> UPDATE Area in Update mode RETRVAL Area in Retrieval mode OFFLINE Area is Offline
DBFM	Database Format. IDMS 12.0 and up. <ul style="list-style-type: none"> NETWORK Network Database RELATNL Relational Database
DBTP	Database Area Type <ul style="list-style-type: none"> IDMS DB Native IDMS Database VSAM KSD VSAM Key Sequenced Data Set VSAM ESD VSAM Entry Sequenced Data Set VSAM RRD VSAM Relative Record Data Set
DBOP	Database Area. Run Unit Open Status (<i>abc def</i>), IDMS 10.2 only. <ul style="list-style-type: none"> <i>abc</i> Open Access <ul style="list-style-type: none"> S Shared E Exclusive P Protected <i>def</i> Open Mode <ul style="list-style-type: none"> R Retrieval U Update L Longterm
DBWT	Database Area. Run Unit Waiting Status (<i>a bc</i>), IDMS 10.2 only. <ul style="list-style-type: none"> <i>a</i> Waiting status <ul style="list-style-type: none"> W Run unit(s) waiting for area

Command	Display
	<i>bc</i> Open status
	H Run unit(s) holding (open) area
	E Run unit(s) with exclusive open
DBXX	Database Exception Definition/Status (<i>nnn/abc</i>)
	<i>nnn</i> exception definition number
	<i>a</i> Exception status
	. Exception did not occur
	* Exception occurred
	L Exception limit reached (LIM= <i>n</i>)
	X Exception limit-x reached (LMX= <i>n</i>)
	D Exception delayed (DLY= <i>n</i>)
	T Exception time delayed (TDL= <i>n</i>)
	I Exception bypassed, time interval (TIN= <i>n</i>)
	R Exception bypassed, time of day range (<i>TOD</i> < or <i>TOD</i> <)
	<i>b</i> Screen chaining status
	. Not requested
	* Screen chaining requested
	L Screen chaining limit reached (SLM= <i>n</i>)
	D Screen chaining delayed (SDL= <i>n</i>)
	<i>c</i> Command status
	. Not requested
	* Command issued or job submitted
	L Command limit reached (CLM= <i>n</i>)
	D Command delayed (CDL= <i>n</i>)
DBLP	Database Area Low Page number
DBHP	Database Area High Page number
DBPG	Area Page Group number
DBSC	Database Area Schema name

Command	Display
DBSN	Database Area Schema version number
DBRD	Number of Physical Reads
DBWR	Number of Physical Writes
DBIO	Total input and output Count
DBIR	Current input and output Rate
DBRQ	Total Record Request Count (read or write)
DBRR	Current Record Request Rate
DBRF	Number of Pages found in Buffer
DBRP	Percentage of Pages found in Buffer
DBUT	Buffer Utilization Ratio for the Database Area
DBEC	Reads Found in Cache or Dataspace
DBEP	Percentage of Reads Found in Cache or Dataspace
DBEU	Cache and Dataspace Utilization Ratio
DBSF	Reads Found in Storage (buffer+dataspace+cache)
DBSP	Percentage Reads Found in Storage
DBSU	Storage Utilization Ratio
DBLK	Current number of Records Locked in the area
DBRO	Number of Run Units with Area Open, IDMS 10.2 only
DBRS	Number of Run Units with the Area in their subschema, IDMS 10.2 only
DBRU	For Access=Exclusive, Run Unit ID having exclusive access to the area; otherwise Run Unit ID with area open. IDMS 10.2 only
DIIR	Interval Input and Output Rate
DIRR	Interval Record Request Rate
DIRP	Interval Reads Found in Buffer Percentage
DIUT	Interval Buffer Utilization Ratio for the Area
DIEC	Interval Reads found in Cache or Dataspace
DIEP	Interval Percentage Reads Found in Cache or Dataspace
DIEU	Interval Cache and Dataspace Utilization Ratio

Command	Display
DISF	Interval Reads Found in Storage (buffer+dataspace+cache)
DISP	Interval Percentage Reads Found in Storage
DISU	Interval Storage Utilization Ratio

Database Area Horizontal Display

Information for database areas can be displayed in a horizontal format. That is, the display follows a more traditional report format. The information for each area is displayed on a single line, with further areas being displayed on additional lines.

The DBHL line command displays database statistics in one of either four or five formats, four for IDMS 10.2 or 12.x CVs, or five for IDMS 14.x or 15.x CVs. You specify the format with the DBHL line command using a number from 1 through 4 or 5, depending on your CV. DBHL displays the specified report format. When you do not specify the format number, a default format number is selected. You can adjust the format number using the .RIGHT control command to add 1 to the format number or .LEFT to subtract 1.

Select the database areas by DBHL ([Figure 127](#)) by using the selection keywords for the DBSL line command, described in ["Task Definition Display Line Commands" on page 209](#).

Figure 127 • DBHL screen

```

COMMAND:_____DBHL      11:54:58.7  93.299  99.81% .TUT for Tutorial
.
      Data Base Areas, horizontal display

IDMS IDMS12G      V120  IDMS INTERFACE ACTIVE  TASKS:  14      .00/SEC

.  Use DBSL selection parms to select areas for display.
DBSL SRT=DBNM

.  Specify 1, 2, 3, or 4 for the DBHL display format number.
DBHL 1 1/4
+ AAR-AR-PAY-AREA      UPDATE  IDMS DB  NETWORK      0  2372011  2446050
+ AAR-BANK-AREA        UPDATE  IDMS DB  NETWORK      0  2533431  2533440
+ AAR-BOM-AREA         UPDATE  IDMS DB  NETWORK      0  2501551  2501560
+ AAR-BTCH-AREA        UPDATE  IDMS DB  NETWORK      0  2200001  2200400
+ AAR-BUS-AREA         UPDATE  IDMS DB  NETWORK      0  2369551  2372010
+ AAR-CAPAUD-AREA      UPDATE  IDMS DB  NETWORK      0  2533451  2534200
+ AAR-CARACT-AREA      UPDATE  IDMS DB  NETWORK      0  2566791  2567090
+ AAR-CARAUD-AREA      UPDATE  IDMS DB  NETWORK      0  2564841  2566790

```

In [Figure 127](#), the DBSL keywords are used to sort the list of database areas by the area name. All areas have been selected. The DBHL line command displays the database areas by using the format number specified with the line command. Several lines have been omitted from the actual DBHL display. The actual display would have generated additional lines until all the selected areas would have been displayed. The scrolling commands, .UP (PF7) and .DOWN (PF8), may be used to display the entire report.

[Figure 128](#) shows database statistics displayed in the four different formats for IDMS 10.2 and 12.x CVs.

Figure 128 • DBHL screen

IDMS IDMSDC12	V120	IDMS INTERFACE ACTIVE	TASKS: 18	2.85/SEC
DBSL SRT=DBNM,CNT=4				
DBHL 1 1/4		Status	Type	Format
+ AAR-AR-PAY-AREA		UPDATE	IDMS DB	NETWORK
+ AAR-BANK-AREA		UPDATE	IDMS DB	NETWORK
+ AAR-BOM-AREA		UPDATE	IDMS DB	NETWORK
+ AAR-BTCH-AREA		UPDATE	IDMS DB	NETWORK
DBHL 2 2/4				
		RFB%	Ratio	I/Os
+ AAR-AR-PAY-AREA		91.07%	11.20	1.7
+ AAR-BANK-AREA			1.00	.0
+ AAR-BOM-AREA			1.00	.0
+ AAR-BTCH-AREA		69.50%	3.27	.0
DBHL 3 3/4				
	Interval	RFB%	Ratio	I/Os
+ AAR-AR-PAY-AREA		89.44%	9.46	1.6
+ AAR-BANK-AREA				.0
+ AAR-BOM-AREA				.0
+ AAR-BTCH-AREA		74.71%	3.95	.5
DBHL 4 4/4				
	Total	Reads	Writes	Found
+ AAR-AR-PAY-AREA		15872	420	161918
+ AAR-BANK-AREA		3	3	0
+ AAR-BOM-AREA		3	3	0
				Rec Req
				RFB%
				Ratio

[Figure 129](#) shows database statistics displayed in the five different formats for an IDMS 14.0 CV.

Figure 129 • DBHL screen

IDMS	IDMS14	V140	IDMS INTERFACE ACTIVE	TASKS:	14	.00/SEC		
DBSL SRT=DBRQ,CNT=4								
DBHL 1	1/5		Status	Type	Format	Grp	Low Page	Hi Page
+	SYSTEM.DDLDCRUN		UPDATE	IDMS DB	NETWORK	0	40001	41000
+	SQLDEMO.EMPLAREA		UPDATE	IDMS DB	RELATNL	0	77001	77100
+	SYSSQL.DDLCAT		UPDATE	IDMS DB	RELATNL	0	20001	22000
+	SQLDEMO.INFOAREA		UPDATE	IDMS DB	RELATNL	0	77201	77250
DBHL 2	2/5		RFB%	Ratio	I/Os	Reqs	RFS%	Ratio
+	SYSTEM.DDLDCRUN		53.48%	2.14	.0	.0	53.48%	2.14
+	SQLDEMO.EMPLAREA		94.98%	19.94	.0	.0	94.98%	19.94
+	SYSSQL.DDLCAT		97.15%	35.10	.0	.0	97.15%	35.10
+	SQLDEMO.INFOAREA		92.15%	12.74	.0	.0	92.15%	12.74
DBHL 3	3/5	Interval	RFB%	Ratio	I/Os	Reqs	RFS%	Ratio
+	SYSTEM.DDLDCRUN				.0	.0		
+	SQLDEMO.EMPLAREA		100.00%		.0	4.9	100.00%	
+	SYSSQL.DDLCAT		100.00%		.0	4.5	100.00%	
+	SQLDEMO.INFOAREA		100.00%		.0	1.1	100.00%	
DBHL 4	4/5	Total	Reads	Writes	Found	Rec Req	RFB%	Ratio
+	SYSTEM.DDLDCRUN		2007	3	2308	4315	53.4	2.14
+	SQLDEMO.EMPLAREA		101	22	1913	2014	94.9	19.94
+	SYSSQL.DDLCAT		55	1	1876	1931	97.1	35.10
+	SQLDEMO.INFOAREA		51	39	599	650	92.1	12.74
DBHL 5	5/5	Buffer+ESA+Cache	Hits	RFS%	Ratio	Intrvl	RFS%	Ratio
+	SYSTEM.DDLDCRUN		2308	53.48%	2.14	0		
+	SQLDEMO.EMPLAREA		1913	94.98%	19.94	1276	100.00%	
+	SYSSQL.DDLCAT		1876	97.15%	35.10	1181	100.00%	
+	SQLDEMO.INFOAREA		599	92.15%	12.74	300	100.00%	

The following text describes the statistics displayed under each format:

DBHL Format 1

Column Heading	Description
Status	Area status (update, retrieval, or offline)
Type	Area type
Format	Area format (network or relational)
Grp	Area page group number
Low Page	Low page number in area
Hi Page	High page number in area

DBHL Format 2

Column Heading	Description
RFB%	Long-term reads found in buffer percentage
Ratio	Long-term buffer utilization ratio
I/O	Current page Input and Output rate
Reqs	Current record request rate
RFS%	Long-term reads found in storage percentage
Ratio	Long-term storage utilization ratio

DBHL Format 3

Column Heading	Description
Interval	Interval statistics
RFB%	Interval reads found in buffer percentage
Ratio	Interval buffer utilization ratio
I/O	Interval page Input and Output rate
Reqs	Interval record request rate
RFS%	Interval reads found in storage percentage
Ratio	Interval storage utilization ratio

DBHL Format 4

Column Heading	Description
Total	Long-term statistics
Reads	Pages read
Writes	Pages written
Found	Record requests found in buffer
Rec Req	Total record requests
RFB%	Long-term reads found in buffer percentage
Ratio	Long-term buffer utilization ratio

DBHL Format 5 (IDMS 14.0 and up only)

Column Heading	Description
Hits	Total pages found in storage (buffer+dataspace+cache)
RFS%	Total pages found in storage percentage
Ratio	Total storage utilization ratio
Intrvl	Interval pages found in storage
RFS%	Interval pages found in storage percentage
Ratio	Interval storage utilization ratio

Database Area Detailed Display

The DBZZ line command provides a SPY feature detailed display of the statistics for a single database area. The database area must be identified by using cursor movement to identify the area to be displayed by DBZZ. Refer to ["SPY Feature" on page 34](#) for guidelines on using SPY. [Figure 130](#) depicts this feature.

Figure 130 • SPY screen

COMMAND: _____ SPYIDB 12:48:54.5 93.222 95.00% SPY SCREEN ACTIVE							
IDMS IDMSDC12 V120 IDMS INTERFACE ACTIVE TASKS: 18 2.85/SEC							
. Database area detailed display for SPY feature.							
DBZZ	SQLDEMO.EMPLAREA			Total	Delta	Rate	Interval
+ Lo-Pg:	77001	Pages Written:	41	6	.40	18	.01
+ Hi-Pg:	77100	Pages Read:	2983	436	29.06	1167	1.27
+ Group:	0	Page I/Os:	3024	442	29.46	1185	1.29
+ Stat:	UPDATE	Records Reqs:	4797	702	46.80	2110	2.31
+ Format:	RELATNL	In buffer:	1819	266	17.73	943	1.03
+ Date:	93-03-31	Percent Found:	37.91%			44.69%	
+ Time:	07:03:04	Util Ratio:	1.60			1.80	
+ Locks:	0	Notify:	0				
+ IDXDBX	EXA:	1/...	7/...				
. To select another area for DBZZ, enter .SPY after COMMAND:							
. place the cursor on the desired area, and press enter.							
DBSL SRT=DBNM							
DBHL	1/4	Status	Type	Format	Grp	Low Page	Hi Page
+ APPLDICT.DDLDCLOD		UPDATE	IDMS DB	NETWORK	0	70001	70500
+ APPLDICT.DDLDMML		UPDATE	IDMS DB	NETWORK	0	60001	62000
+ APPLSEG1.DBOL-APPLFILE		UPDATE	IDMS DB	NETWORK	3	1004001	1004100

In [Figure 130](#), the SPYIDB screen displayed after the .SPY command identified the SQLDEMO.EMPLAREA database area. The DBZZ line command displays the detailed statistics for the area, as described in the following text.

Line 1

Field	Description
(untitled)	Database segment and area name.
Total	(Column heading only) All statistics in this column show total activity for the area since the area was opened.
Delta	(Column heading only) All statistics in this column show activity count during the most recent PreAlert sample.
Rate	(Column heading only) All statistics in this column show activity rate (per second) during the most recent PreAlert sample.
Interval	(Column heading only) All statistics in this column show activity count during the current PreAlert statistics interval for the IDMS CV.
Rate	(Column heading only) All statistics in this column show activity rate (per second) during the current PreAlert statistics interval for the IDMS CV.

Line 2

Field	Description
Lo-Pg	Lowest page number assigned to the area.
Pages Written	Pages written to the area.

Line 3

Field	Description
Hi-Pg	Highest page number assigned to the area.
Pages Read	Pages read from the area.

Line 4

Field	Description
Group	Page group number assigned to the area.
Page I/Os	Page Inputs and Outputs (reads + writes) for the area.

Line 5

Field	Description
Stat	Open status (Update or Retrieval).
Records Reqs	Records requested from the area.

Line 6

Field	Description
Format	Area format (Network or Relational).
In Buffer	Records requested found in a buffer, no page read performed.

Line 7

Field	Description
Date	Area date stamp.
Percent Found	Percentage of records requested found in the buffer, for total and interval activity.

Line 8

Field	Description
Time	Area time stamp.
Util Ratio	Buffer utilization ratio for the area, for total and interval activity.

Line 9

Field	Description
Locks	Number of DB keys locks currently held in the area.
Notify	Number of notify locks held in the area.

Line 10

Field	Description
IDXDBX EXA	Database exception definitions, number, and status.

Note: _____

Line 10 only displays when one or more database exception definitions has been associated with the area.

Line 11

Field	Description
B+E+C Hits	Pages found in storage (IDMS buffers, ESA dataspace or cache file). No physical read performed.

Line 12

Field	Description
Percent	Percentage of page requests found in storage for total and interval activity.

Line 13

Field	Description
Util Ratio	Storage utilization ratio for total and interval activity. Computed as total requests divided by physical reads.

Note: _____

Lines 11 through 13 display for IDMS 14.0 CVs and up.

Database Area Plots

The DBPL line command plots specific statistics for selected database areas. Keywords are used to select database areas for display and to specify the statistic to be plotted.

The database areas may be selected in one of three ways:

- The following selection keywords specified with the DBPL line command are used to select the database areas:

DNM= area names

SEG= segment names (IDMS 12.0 and up)

SYM= symbolic names (IDMS 12.0 and up)

MIN= minimum value

SRT= sort field keywords

- Database areas selected in a previous DBNM line command. If none of the selection keywords have been used, the plot will include only the database areas selected in a previous DBNM line command.
- If neither the selection keywords nor the DBNM line command has been used, then the MIN=1 default is used to select database areas with a plot field value of 1 or more.

Keyword	Function
DNM=xxx	Specifies one to eight area name masks to select database areas for display. The area names may be masked using an asterisk (*).
SEG=xxx	Specifies one to eight database segment name masks to select database areas for display. The segment names may be masked using an asterisk (*). IDMS 12.0 and up.
SYM=xxx	Specifies one to eight area symbolic name masks to select database areas for display. The symbolic names may be masked using an asterisk (*). IDMS 12.0 and up.
FMT=xxx	Specifies the format to select database areas for display. IDMS 12.0 and up. R—Relational database areas N—Network areas.
FLD=xxx	Specifies the field to be plotted; default is DBIR. DBIR—Input and Output rate DBRR—Record request rate DBRP—Reads found in buffer percent

Keyword	Function
	DBUT—Buffer utilization ratio
	DBLK—Locks held in area
	DIIR—Interval Input and Output rate
	DIRR—Interval record request rate
	DIRF—Interval reads found in buffer pct
	DIUT—Interval buffer utilization ratio
SRT=xxx	Specify the sort field. Defaults to the plot field.
SRT<xxx	Specify the sort field, ascending sequence.
SRT>xxx	Specify the sort field, descending sequence.
	Possible sort field keywords are as follows:
<u>Keyword</u>	<u>Sort Field</u>
DBNM	Area Name
DBRR	Record request rate
DBIR	Input and Output rate
DBRP	Reads Found in buffer percent
DBUT	Buffer utilization ratio
DBLK	Locks held in area
DIIR	Interval Input and Output rate
DIRR	Interval record request rate
DIRF	Interval reads found in buffer pct
DIUT	Interval buffer utilization ratio
PLT=nnn	Specifies the plot measurement scale. If the specified scale is less than 50, the scale is rounded up to the next multiple of 10. If greater than 50, then it is rounded up to the next multiple of 50. The defaults for the scale follow:
DBRR	Default is 500 record requests/second
DBIR	Default is 100 Inputs and Outputs per second
DBRP	Default is 100 percent
DBUT	Default is 20 requests to reads

Keyword	Function
	DBLK Default is 100 locks
	DIRR Default is 500 record requests/second
	DIIR Default is 100 Input and Outputs per second
	DIRP Default is 100 percent
	DIUT Default is 20 requests to reads
MIN= <i>nnn</i>	Specifies the minimum value to be plotted; default is 1. Devices with the selected value less than the minimum are not displayed.
YEL= <i>nnn</i>	Specifies the yellow plot threshold. The yellow plot threshold is specified as a percentage of the plot measurement scale. When the size of the plot exceeds the yellow threshold, the plot will be displayed in yellow if color support is active. Default is specified in the userdata UDPARMS macro, PLOTYEL keyword.
RED= <i>nnn</i>	Specifies the red plot threshold. The red plot threshold is specified as a percentage of the plot measurement scale. When the size of the plot exceeds the yellow threshold, the plot will be displayed in red if color support is active. If color support is not active, the plot will be highlighted. Default is specified in the userdata UDPARMS macro, PLOTRED keyword.
EXA= <i>xxx</i>	Specifies the exception color option. Plots display in white (or highlighted) when an exception occurs for the plot field. The exception color option has precedence over the red and yellow color options; if the exception occurs, the plot is displayed in white regardless of the red and yellow thresholds. If the exception does not occur, the red and yellow color options may be suppressed.
	Y Request exception color option.
	O Request exception color option; suppress red and yellow when the exception has not occurred.

In [Figure 131](#), the DBPL line command plotted the Input and Output rate for the database areas selected by the preceding DBNM line command. The areas were displayed in the same order as in the DBNM line command, descending order on the Input and Output rate.

Figure 131 • DBPL line command

IDMS	IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS:	22	7.24/SEC			
DBSL SRT=DBIR									
DBNM	VIPVOLUM	VIPRULE-	VIPINDEX	MMF-SYST	DDLML	GLSYSDEF	DDLDCLOD	GASMETER	+
+	-AREA	AREA	-AREA	EM-AREA		-AREA		-AREA	
DBIR	12.73	10.28	6.75	5.19	4.89	4.89	4.11	3.81	
DBRR	56.31	79.82	114.59	14.29	27.42	49.85	41.33	63.79	
DBPL									
+	AREA NAME	I/O RATE	...	10...	20...	30...	40...	50...	60...
+	VIPVOLUM-AREA	12.73	*****	...	...	...	...	...	...
+	VIPRULE-AREA	10.28	*****	...	...	...	...	...	...
+	VIPINDEX-AREA	6.75	***.	...	...	...	...	...	...
+	MMF-SYSTEM-AREA	5.19	***.	...	...	...	...	...	...
+	DDLML	4.89	**.	...	...	...	...	...	...
+	GLSYSDEF-AREA	4.89	**.	...	...	...	...	...	...
+	DDLDCLOD	4.11	**.	...	...	...	...	...	...
+	GASMETER-AREA	3.81	**.	...	...	...	...	...	...

In [Figure 132](#), the Input and Output rate was plotted for all database areas whose Input and Output rate was greater than 1 Input and Output per second (the MIN=1 default). The areas were displayed in descending order by the Input and Output rate.

Figure 132 • DBPL line command

```

IDMS IDMSDC1          V1      IDMS INTERFACE ACTIVE   TASKS:  22    7.24/SEC

DBPL FLD=DBIR
+ AREA NAME           I/O RATE  ...10...20...30...40...50...60...70...80...90...100
+ VIPVOLUM-AREA       12.73  *****|...|...|...|...|...|...|...|...|...|...|
+ VIPRULE-AREA        10.28  *****|...|...|...|...|...|...|...|...|...|...|
+ VIPINDEX-AREA        6.75   ***|...|...|...|...|...|...|...|...|...|...|
+ MMF-SYSTEM-AREA      5.19   ***|...|...|...|...|...|...|...|...|...|...|
+ DDLDML               4.89   **|...|...|...|...|...|...|...|...|...|...|
+ GLSYSDEF-AREA        4.89   **|...|...|...|...|...|...|...|...|...|...|
+ DDLDCLD              4.11   **|...|...|...|...|...|...|...|...|...|...|
+ GASMETER-AREA        3.81   **|...|...|...|...|...|...|...|...|...|...|
+ GLMDATA-AREA         3.23   **|...|...|...|...|...|...|...|...|...|...|
+ COMMON-TABLE-A       2.74   *|...|...|...|...|...|...|...|...|...|...|
+ DDLDMSG              1.86   *|...|...|...|...|...|...|...|...|...|...|
+ INVOICE-AREA         1.27   *|...|...|...|...|...|...|...|...|...|...|

```

8

Files

These sections provide information regarding the file definition data provided by PreAlert:

File Selection	239
File Display Line Commands	242
File Horizontal Display	245
Files Detailed Display	249
File Plots	253

Note: _____

PreAlert collects and displays file definition data for IDMS 14.0 CVs and up.

File Selection

The FCSL line command is used to specify selection criteria which are then used by the FCNM line command to select file definitions for display. The FCSL line command allows you to enter keywords to restrict the file definition display by file name, dataset name, buffer name, File VOLSER, and exception status.

The FCSL line command is usually followed by the FCNM line command. FCSL only allows entry of the selection keywords; actual selection occurs in the FCNM line command.

Keyword	Description
FNM= <i>mask (s)</i>	Specifies one to eight file name masks. Files are selected by their name. The FCNM line command displays the file name.
DSN= <i>mask (s)</i>	Specifies one to eight dataset name masks. Files are selected by their dataset name. The FCDS line command displays the dataset name.
BNM= <i>mask (s)</i>	Specifies one to eight buffer name masks. Files are selected by their buffer name. The FCBF line command displays the buffer name.
VOL= <i>mask (s)</i>	Specifies one to eight VOLSER masks. Files are selected by the VOLSER of the device on which the file resides. The FCVS line command displays the VOLSER for the file.
EXA=xxx	Specifies exception analysis status parameter. Files having one or more exceptions are selected for display. See "IDMS File Exception Analysis" on page 412 . Y One or more exceptions N No exceptions
REP=xxx	Specifies the Auto-repeat option. When the number of files selected for display exceeds the number that can be displayed across the screen, the line commands are repeated until all selected files are displayed. See "Auto-repeat Option" on page 27 for more information. Y Request Auto-repeat option N Suppress Auto-repeat option
SRT=xxx	Specifies the sort field, default sequence. The display of selected files is sorted on the specified field by using a default sort sequence.
SRT<xxx	Specifies the sort field, ascending sequence. The display of selected files is sorted in ascending order on the specified field.
SRT>xxx	Specifies the sort field, descending sequence. The display of selected files is sorted in descending order on the specified field.

Keyword	Description
	Possible sort field values are as follows:
<u>Value</u>	<u>Sort Field</u>
FCNM	File name
FCBF	Buffer name
FCCH	Cache name
FCDD	DD name
FCDS	Dataset name
FCVS	File VOLSER
FCRQ	Record request count
FCIO	I/O count
FCRR	Record request rate
FCIR	I/O rate
FCRP	Buffer hits percent
FCUT	Buffer utilization ratio
FCEP	ESA dataspace or cache hits percent
FCEU	ESA dataspace or cache utilization ratio
FCSP	Storage hits percent
FCSU	Storage utilization ratio
FIRR	Interval record request rate
FIIR	Interval I/O rate
FIEP	Interval dataspace or cache hits percent
FIEU	Interval dataspace or cache utilization ratio
FIRP	Interval buffer hits percent
FIUT	Interval buffer utilization ratio
FISP	Interval storage hits percent
FISU	Interval storage utilization ratio

In [Figure 133](#), the FCSL line command selected all files, sorted by file name.

Figure 133 • FCSL line command

COMMAND: FILEDEFN 10:37:52.5 96.187 38.62% .TUT for Tutorial									
IDMS IDMS14 V140 IDMS INTERFACE ACTIVE TASKS: 14 .00/SEC									
. File Displays - Sorted by IDMS File Name									
FCSL SRT=FCNM									
FCNM	APPLDICT	APPLDICT	CATSYS.D	CATSYS.D	CATSYS.D	DBOLDICT	DBOLDICT	DBOLTEST	+
+	.DICTDB	.DLODDB	CCAT	CCATL	CCATX	.DBOLDML	.DBOLLOD	.DBOLFIL	
+								E	
FCDD	DICTDB	DLODDB	DCCAT	DCCATL	DCCATX	DBOLDML	DBOLLOD	DBOLFILE	
FCST	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	
FCTP	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	
FCRD	469	15	1	15	1	1	3	1	
FCWR	1	1	1	1	1	1	1	1	
FCRF	905	0	0	0	0	0	0	0	
FCRP	65.86%	.00%	.00%	.00%	.00%	.00%	.00%	.00%	
FCUT	2.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
=====									
FCNM	EMPDEMO.	EMPDEMO.	EMPDEMO.	EMPDEMO1	EMPDEMO1	EMPDEMO1	EMPDEMO2	PROJSEG.	+
+	EMPDEMO	INSDEMO	ORGDEMO	.EMPDEMO	.INSDEMO	.ORGDEMO	.EMPFILE	PROJDEMO	
+				1	1	1			
FCDD	EMPDEMO	INSDEMO	ORGDEMO	EMPDEMO1	INSDEMO1	ORGDEMO1	EMPFILE	PROJDEMO	
FCST	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	UPDATE	
FCTP	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	BDAM	
FCRD	1	1	1	1	1	1	3	1	

File Display Line Commands

Command	Display
FCNM	File name. If the file name is more than 8 bytes long, two or more lines will be used to display the entire file name. Overflow indicator (+) available.
FCBF	Buffer name. If the buffer name is more than 8 bytes long, two or more display lines will be used to display the entire buffer name.
FCCH	Cache name. If the cache name is more than 8 bytes long, two or more display lines will be used to display the entire cache name.
FCDD	MVS DDname.
FCDS	Dataset name. If the dataset name is more than 8 bytes long, two or more lines will be used to display the entire dataset name.
FCVS	File VOLSER.

Command	Display
FCST	<u>File Status:</u> UPDATE Opened for update RETRVAL Opened for retrieval NOT OPEN File not opened, DD available. NO DD File not opened, DD not available.
FCTP	File type, BDAM/VSAM.
FCEC	ESA dataspace or cache file hits. The number of pages found in either an ESA dataspace or a cache file.
FCEP	ESA dataspace or cache file hits percentage. The percentage of record requests not found in a buffer that were found in either an ESA dataspace or a cache file.
FCEU	ESA dataspace or cache file utilization ratio. Calculated as the number of record requests not found in a buffer divided by the number of physical reads.
FCIO	Total input and output count.
FCIR	Current input and output rate.
FCRD	Total physical read count.
FCWR	Total physical write count.
FCRQ	Total record request count.
FCRR	Current record request rate.
FCRF	Total buffer hits count. The number of record requests found in a buffer.
FCRP	Buffer hits percentage. The percentage of record requests that were found in a buffer.
FCUT	Buffer utilization ratio. Calculated as the number of record requests found in a buffer divided by the number of record requests.
FCSF	Total storage hits count. The number of record requests that were found in either an IDMS buffer, an ESA dataspace, or a cache file.
FCSP	Storage hits percentage. The percentage of record requests that were found in either an IDMS buffer, and ESA dataspace, or a cache file.
FCSU	Storage utilization ratio. Calculated as the number of record requests divided by the number of physical reads.

Command	Display
FCXX	<p>File Exception Definition/Status (<i>nnn/abc</i>):</p> <p><i>nnn</i> Exception definition number</p> <p><i>a</i> Exception status</p> <p>. Exception did not occur</p> <p>* Exception occurred</p> <p>L Exception limit reached (LIM=<i>n</i>)</p> <p>X Exception limit-x reached (LMX=<i>n</i>)</p> <p>D Exception delayed (DLY=<i>n</i>)</p> <p>T Exception time delayed (TDL=<i>n</i>)</p> <p>I Exception bypassed, time interval (TIN=<i>n</i>)</p> <p>R Exception bypassed, time of day range (TOD<<i>hhmm</i> or TOD><i>hhmm</i>)</p> <p><i>b</i> Screen Chaining Status</p> <p>. Not requested</p> <p>* Screen chaining requested</p> <p>L Screen chaining limit reached (SLM=<i>n</i>)</p> <p>D Screen chaining delayed (SDL=<i>n</i>)</p> <p><i>c</i> Command status</p> <p>. Not requested</p> <p>* Command issued or job submitted</p> <p>L Command limit reached (CLM=<i>n</i>)</p> <p>D Command delayed (CDL=<i>n</i>)</p>
FIEC	Interval ESA dataspace or cache file hits. The number of pages found in either an ESA dataspace or a cache file.
FIEP	Interval ESA dataspace or cache file hits percentage. The percentage of record requests not found in a buffer that were found in either an ESA dataspace or a cache file.
FIEU	Interval ESA dataspace or cache file utilization ratio. Calculated as the number of record requests not found in a buffer divided by the number of physical reads.
FIIR	Interval input and output rate.
FIRR	Interval record request rate.

Command	Display
FIRP	Interval buffer hits percentage. The percentage of record requests that were found in a buffer.
FIUT	Interval buffer utilization ratio. Calculated as the number of record requests found in a buffer divided by the number of record requests.
FISF	Interval storage hits count. The number of record requests that were found in either an IDMS buffer, an ESA dataspace, or a cache file.
FISP	Interval storage hits percentage. The percentage of record requests that were found in either an IDMS buffer, and ESA dataspace, or a cache file.
FISU	Interval storage utilization ratio. Calculated as the number of record requests divided by the number of physical reads.

File Horizontal Display

You can display information for file definitions in a horizontal format so that the display follows a more traditional report format. Information for each file definition displays on a single line, with further files being displayed on additional lines.

The FCHL line command displays file statistics in one of five fixed formats. You specify the format with the FCHL line command using a number from 1 through 5. FCHL displays the specified report format. When you do not specify the format number, a default format number is selected. It may be adjusted using the .RIGHT control command to add 1 to the format number or .LEFT to subtract 1.

The files displayed by FCHL are selected using the selection keywords specified via the FCSL line command, described in ["File Selection" on page 239](#).

In [Figure 134](#), the FCSL keywords specify that the list of files is sorted by file name. All files have been selected. The FCHL line command displays the files using the format number specified with the line command. In [Figure 134](#), several lines have been left off from the actual FCHL display. The actual display would have generated additional lines until all the selected files displayed. Use the scrolling commands, .UP (PF7) and .DOWN (PF8), to view the entire report.

Figure 134 • FCHL line command

```

COMMAND:          FCHL          10:38:46.7  96.187  69.00% .TUT for Tutorial
.
.          IDMS Files, horizontal display
IDMS IDMS14      V140  IDMS INTERFACE ACTIVE  TASKS:  14    .00/SEC
.  Use FCSL selection parms to select files for display.
FCSL SRT=FCNM
.  Specify 1, 2, 3, 4, or 5 for the FCHL display format number.
FCHL 1 1/5
+ DDname  VOLSER  Status  Type  Buffer
+ APPLDICT.DICTDB      DICTDB  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ APPLDICT.DLODDB      DLODDB  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ CATSYS.DCCAT         DCCAT   DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ CATSYS.DCCATL        DCCATL  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ CATSYS.DCCATX        DCCATX  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ DBOLDICT.DBOLDML     DBOLDML  PROD01  UPDATE  BDAM  DBOL_BUFFER
+ DBOLDICT.DBOLLOD     DBOLLOD  DBS001  UPDATE  BDAM  DBOL_BUFFER
+ DBOLTEST.DBOLFILE    DBOLFILE DBS004  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO.EMPDEMO      EMPDEMO  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO.INSDEMO      INSDEMO  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO.ORGDEMO      ORGDEMO  DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO1.EMPDEMO1    EMPDEMO1 DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO1.INSDEMO1    INSDEMO1 DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO1.ORGDEMO1    ORGDEMO1 DBS006  UPDATE  BDAM  DEFAULT_BUFFER
+ EMPDEMO2.EMPFILE     EMPFILE  DBS006  UPDATE  BDAM  DEFAULT_BUFFER

```

[Figure 135](#) shows the five formats produced by the FCHL line command.

Figure 135 • FCHL line command

COMMAND:	II	13:06:00.0	96.180	89.81%	.TUT for Tutorial		
IDMS IDMS14	V140	IDMS INTERFACE ACTIVE	TASKS: 14	.00/SEC			
FCSL FNM=SQLDEMO*							
FCNM SQLDEMO. SQLDEMO. SQLDEMO.							
+ EMPLDEMO INFODEMO INDXDEMO							
FCHL 1 1/5	DDname	VOLSER	Status	Type	Buffer		
+ SQLDEMO.EMPLDEMO	EMPLDEMO	DBS006	UPDATE	BDAM	EMPLDEMO_BUFFER		
+ SQLDEMO.INFODEMO	INFODEMO	DBS006	UPDATE	BDAM	DEFAULT_BUFFER		
+ SQLDEMO.INDXDEMO	INDXDEMO	DBS006	UPDATE	BDAM	DEFAULT_BUFFER		
FCHL 2 2/5	RFB%	Ratio	I/Os	Reqs	RFS%	Ratio	
+ SQLDEMO.EMPLDEMO	96.93%	32.57	.0	.0	96.93%	32.57	
+ SQLDEMO.INFODEMO	.00%	1.00	.0	.0	.00%	1.00	
+ SQLDEMO.INDXDEMO	91.30%	11.50	.0	.0	91.30%	11.50	
FCHL 3 3/5	Interval	RFB%	Ratio	I/Os	Reqs	RFS%	Ratio
+ SQLDEMO.EMPLDEMO	100.00%			.1	12.1	100.00%	
+ SQLDEMO.INFODEMO				.0	.0		
+ SQLDEMO.INDXDEMO	100.00%			.0	.5	100.00%	
FCHL 4 4/5	Total	Reads	Writes	Found	Rec Req	RFB%	Ratio
+ SQLDEMO.EMPLDEMO		101	36	3189	3290	96.9	32.57
+ SQLDEMO.INFODEMO		1	1	0	1	.0	1.00
+ SQLDEMO.INDXDEMO		14	16	147	161	91.3	11.50
FCHL 5 5/5	Buffer+ESA+Cache	Hits	RFS%	Ratio	Intrvl	RFS%	Ratio
+ SQLDEMO.EMPLDEMO		3189	96.93%	32.57	638	100.00%	
+ SQLDEMO.INFODEMO		0	.00%	1.00	0		

FCHL Format 1

Column Heading	Description
DDname	MVS DD name
VOLSER	File VOLSER
Status	File status
Type	File type
Buffer	Buffer name used for the file

FCHL Format 2

Column Heading	Description
RFB%	Long-term buffer hits percentage
Ratio	Long-term buffer utilization ratio
I/Os	Current I/O rate

Column Heading	Description
Reqs	Current record request rate
RFS%	Long-term storage hits percentage (Buffer+ESA+Cache)
Ratio	Long-term storage utilization ratio

FCHL Format 3

Column Heading	Description
RFB%	Interval buffer hits percentage
Ratio	Interval buffer utilization ratio
I/Os	Interval input and output rate
Reqs	Interval record request rate
RFS%	Interval storage hits percentage (Buffer+ESA+Cache)
Ratio	Interval storage utilization ratio

FCHL Format 4

Column Heading	Description
Reads	Total pages read (physical reads)
Writes	Total pages written
Found	Total pages found in buffer
Rec Req	Total record requests
RFB%	Long-term buffer hits percentage
Ratio	Long-term buffer utilization ratio

FCHL Format 5

Column Heading	Description
Buffer+ESA+Cache	Indicates records found in storage without requiring a physical read to obtain the record
Hits	Long-term pages found in storage
RFS%	Long-term storage hits percentage
Ratio	Long-term storage utilization ratio

Column Heading	Description
Intrvl	Interval pages found in storage
RFS%	Interval storage hits percentage
Ratio	Interval storage utilization ratio

Files Detailed Display

The FCZZ line command provides a detailed display of the statistics for a single file definition. The file must be identified through the .SPY feature, which uses cursor placement to identify the file displayed by FCZZ. Refer to ["SPY Feature" on page 34](#) for guidelines on using .SPY.

In [Figure 136](#), the SPYIFC screen was displayed after the .SPY command identified the SQLDEMO_INDXDEMO file. The FCZZ line command displays detailed statistics for the file, as described in the tables following [Figure 136: "Line 1" on page 250](#) through ["Line 11" on page 252](#).

Figure 136 • SPYIFC screen

COMMAND: SPYIFC 13:07:00.6 96.180 4.87% SPY Screen active						
IDMS IDMS14 V140 IDMS INTERFACE ACTIVE TASKS: 14 .00/SEC						
. File detailed display for SPY feature.						
FCZZ SQLDEMO.INDXDEMO						
	Total	Delta	Rate	Interval	Rate	
+ Status:UPDATE	Pages Written:	16	0	.00	3	.02
+ Type:BDAM	Pages Read:	14	0	.00	0	.00
+ VOLSER:DBS006	Page I/Os:	30	0	.00	3	.02
+ Buffer:DEFAULT_	Records Reqs:	161	0	.00	30	.26
+ BUFFER	In buffer:	147	0	.00	30	.26
+ Date:96-04-09	Percent Found:	91.30%			100.00%	
+ Time:20:18:19	Util Ratio:	11.50				
+ DD/DSN:INXDDEMO IDMS.R140.SQLDEMO.INXDDEMO						
. To select another file for FCZZ, enter .SPY after COMMAND:						
. place the cursor on the desired file, and press enter.						
FCSL SRT=FCNM						
FCHL 1/5	DDname	VOLSER	Status	Type	Buffer	
+ APPLDICT.DICTDB	DICTDB	DBS006	UPDATE	BDAM	DEFAULT_BUFFER	
+ APPLDICT.DLODDB	DLODDB	DBS006	UPDATE	BDAM	DEFAULT_BUFFER	
+ CATSYS.DCCAT	DCCAT	DBS006	UPDATE	BDAM	DEFAULT_BUFFER	
+ CATSYS.DCCATL	DCCATL	DBS006	UPDATE	BDAM	DEFAULT_BUFFER	
+ CATSYS.DCCATX	DCCATX	DBS006	UPDATE	BDAM	DEFAULT_BUFFER	
+ DBOLDICT.DBOLDML	DBOLDML	PROD01	UPDATE	BDAM	DBOL_BUFFER	
+ DBOLDICT.DBOLLOD	DBOLLOD	DBS001	UPDATE	BDAM	DBOL_BUFFER	
+ DBOLTEST.DBOLFILE	DBOLFILE	DBS004	UPDATE	BDAM	DEFAULT_BUFFER	

Line 1

Field	Description
(untitled)	File name
Total	Column heading only. All statistics in this column show total activity for the file since it was opened.
Delta	Column heading only. All statistics in this column show activity count during the most recent PreAlert sample.
Rate	Column heading only. All statistics in this column show activity rate (per second) during the most recent PreAlert sample.
Interval	Column heading only. All statistics in this column show activity count during the current PreAlert statistics interval for the IDMS CV.
Rate	Column heading only. All statistics in this column show activity rate (per second) during the current PreAlert statistics interval for the IDMS CV.

Line 2

Field	Description
Status	File status
Pages Written	Pages written to the file

Line 3

Field	Description
Type	File type
Pages Read	Pages read from the file

Line 4

Field	Description
VOLSER	File VOLSER
Page I/Os	Page input and output (reads + writes) for the file

Line 5

Field	Description
Buffer	Buffer name used by the file
Record Reqs	Records requested from the file

Line 6

Field	Description
(untitled)	Buffer name continued
In Buffer	Record requests found in an IDMS buffer

Line 7

Field	Description
Date	File DMCL date stamp
Percent Found	Percentage of records requested found in a buffer

Line 8

Field	Description
Time	File DMCL time stamp
Util Ratio	Buffer utilization ratio

Line 9

Field	Description
B+E+C Hits	Storage hits, pages found in either a buffer, ESA dataspace, or a cache file. No physical read required.

Line 10

Field	Description
Percent	Percentage of record requests found in storage (buffer, dataspace, or cache). No physical read required.

Line 11

Field	Description
Util ratio	Storage utilization ratio.

Note: _____

Lines 9 through 11 are displayed only when the file is associated with an ESA dataspace or a cache file.

Line 12

Field	Description
DD/DSN	MVS DDname and dataset name

Line 13

Field	Description
Cache	Cache file name and status

Note: _____

Line 13 displays only when the file has been assigned to a cache file.

Line 14

Field	Description
IDXFCX IDX	File exception definitions, number and status

Note: _____

Line 14 only displays when one or more file exception definitions have been associated with the file.

File Plots

The FCPL line command plots specific statistics for selected files. Keywords are used to select files for display and to select the statistics to be plotted. You can select the files in one of three ways:

- Use the following selection keywords specified with the FCPL line command to select the files.
 - FNM= file name
 - MIN= minimum value
 - SRT= sort field keywords
- Use files selected in a previous FCNM line command. If none of the selection keywords has been used, the plot will include only the files selected in a previous FCNM line command.
- If neither the selection keywords nor the FCNM line command has been used, the MIN=1 default selects files with a plot field value of 1 or more.

Keyword	Function
FNM= <i>mask (s)</i>	Specifies one to eight file name masks to select files for display. The file names may be masked using an asterisk (*).
FLD= <i>xxx</i>	Specifies the field to be plotted; default is FCIR. FCIR Input and Output rate FCRR Record request rate FCRP Buffer hits percentage FCUT Buffer utilization ratio FIIR Interval Input and Output rate FIRR Interval record request rate FIRP Interval buffer hits percentage FIUT Interval buffer utilization ratio
SRT= <i>xxx</i>	Specify the sort field. Defaults to the plot field.
SRT< <i>xxx</i>	Specifies the sort field, ascending sequence.
SRT> <i>xxx</i>	Specifies the sort field, descending sequence.

Keyword	Function																				
	Possible sort field keywords are as follows:																				
	<table> <tr> <th><u>Keyword</u></th><th><u>Sort Field</u></th></tr> <tr> <td>FCNM</td><td>File name</td></tr> <tr> <td>FCIR</td><td>I/O rate</td></tr> <tr> <td>FCRR</td><td>Record request rate</td></tr> <tr> <td>FCRP</td><td>Buffer hits percentage</td></tr> <tr> <td>FCUT</td><td>Buffer utilization ratio</td></tr> <tr> <td>FIIR</td><td>Interval I/O rate</td></tr> <tr> <td>FIRR</td><td>Interval record request rate</td></tr> <tr> <td>FIRP</td><td>Interval buffer hits percentage</td></tr> <tr> <td>FIUT</td><td>Interval buffer utilization ratio</td></tr> </table>	<u>Keyword</u>	<u>Sort Field</u>	FCNM	File name	FCIR	I/O rate	FCRR	Record request rate	FCRP	Buffer hits percentage	FCUT	Buffer utilization ratio	FIIR	Interval I/O rate	FIRR	Interval record request rate	FIRP	Interval buffer hits percentage	FIUT	Interval buffer utilization ratio
<u>Keyword</u>	<u>Sort Field</u>																				
FCNM	File name																				
FCIR	I/O rate																				
FCRR	Record request rate																				
FCRP	Buffer hits percentage																				
FCUT	Buffer utilization ratio																				
FIIR	Interval I/O rate																				
FIRR	Interval record request rate																				
FIRP	Interval buffer hits percentage																				
FIUT	Interval buffer utilization ratio																				
PLT= <i>nnn</i>	<p>Specifies the plot measurement scale. If the specified scale is less than 50, the scale is rounded up to the next multiple of 10. If greater than 50, then it is rounded up to the next multiple of 50. The defaults for the scale follow:</p> <table> <tr> <td>FCIR</td><td>Default is 100 Inputs and Outputs per second.</td></tr> <tr> <td>FCRR</td><td>Default is 500 record requests per second.</td></tr> <tr> <td>FCRP</td><td>Default is 100 percent.</td></tr> <tr> <td>FCUT</td><td>Default is 20 requests to reads.</td></tr> <tr> <td>FIIR</td><td>Default is 100 Inputs and Outputs per second.</td></tr> <tr> <td>FIRR</td><td>Default is 500 record requests per second.</td></tr> <tr> <td>FIRP</td><td>Default is 100 percent.</td></tr> <tr> <td>FIUT</td><td>Default is 20 requests to reads.</td></tr> </table>	FCIR	Default is 100 Inputs and Outputs per second.	FCRR	Default is 500 record requests per second.	FCRP	Default is 100 percent.	FCUT	Default is 20 requests to reads.	FIIR	Default is 100 Inputs and Outputs per second.	FIRR	Default is 500 record requests per second.	FIRP	Default is 100 percent.	FIUT	Default is 20 requests to reads.				
FCIR	Default is 100 Inputs and Outputs per second.																				
FCRR	Default is 500 record requests per second.																				
FCRP	Default is 100 percent.																				
FCUT	Default is 20 requests to reads.																				
FIIR	Default is 100 Inputs and Outputs per second.																				
FIRR	Default is 500 record requests per second.																				
FIRP	Default is 100 percent.																				
FIUT	Default is 20 requests to reads.																				
MIN= <i>nnn</i>	<p>Specifies the minimum value to be plotted. Default is 1. Files with the selected value less than the minimum are not displayed.</p>																				

Keyword	Function
YEL= <i>nnn</i>	Specifies the yellow plot threshold. The yellow plot threshold is specified as a percentage of the plots measurement scale. When the size of the plot exceeds the yellow threshold, the plot will be displayed in yellow if color support is active. Default is specified in the userdata UDPARMS macro, using the PLOTYEL keyword.
RED= <i>nnn</i>	Specifies the red plot threshold. The red plot threshold is specified as a percentage of the plots measurement scale. When the size of the plot exceeds the red threshold, the plot will be displayed in red if color support is active. Default is specified in the userdata UDPARMS macro, using the PLOTRED keyword.
EXA= <i>xxx</i>	<p>Specifies the exception color option. Plots will be displayed in white (or highlighted) when an exception occurs for the plot filed. The exception color has precedence over the red and yellow color options; if the exception occurs, the plot displays in white regardless of the red and yellow options. If the exception does not occur, the red and yellow color options may be suppressed.</p> <p>Y Request exception color option.</p> <p>O Request exception color option; suppress red and yellow options when the exception has not occurred.</p>

In [Figure 137](#), the FCPL line command plotted the record request rate for the files selected by the preceding FCNM line command. The files display in the same order as in the FCNM line command, descending order by the record request rate.

Figure 137 • FCPL line command

```

IDMS IDMS14          V140    IDMS INTERFACE ACTIVE    TASKS:  14    .08/SEC
FCSL SRT=FCRR
FCNM SQLDEMO. SYSSQL.S SQLDEMO. SYSUSER. APPLDICT APPLDICT CATSYS.D CATSYS.D +
+   EMPLDEMO QLDD      INDXDEMO SECDD      .DICTDB  .DLODDB  CCAT      CCATL
FCIR      1.49        .00        .04        .00        .00        .00        .00        .00
FCRR     10.26        6.64        .41        .01        .00        .00        .00        .00
FIIR      1.84        .00        .02        .00        .00        .00        .00        .00
FIRR      4.94        3.42        .21        .00        .00        .00        .00        .00
FCPL FLD=FCRR,PLT=50
+ FILE NAME          REC REQS  ....5...10...15...20...25...30...35...40...45...50
+ SQLDEMO.EMPLDEMO    10.26  *****|...|...|...|...|...|...|...|...|...|
+ SYSSQL.SQLDD        6.64  *****|. |...|...|...|...|...|...|...|...|...|
+ SQLDEMO.INDXDEMO     .41  ....|...|...|...|...|...|...|...|...|...|
+ SYSUSER.SECDD       .01  ....|...|...|...|...|...|...|...|...|...|
+ APPLDICT.DICTDB     .00  ....|...|...|...|...|...|...|...|...|...|
+ APPLDICT.DLODDB     .00  ....|...|...|...|...|...|...|...|...|...|
+ CATSYS.DCCAT        .00  ....|...|...|...|...|...|...|...|...|...|
+ CATSYS.DCCATL       .00  ....|...|...|...|...|...|...|...|...|...|

```

In [Figure 138](#), the record request rate was plotted for all files whose record request rate was greater than 1 request per second (the MIN=1 default). The files displays in descending order by the request rate.

Figure 138 • FCPL line command

```

IDMS IDMS14          V140  IDMS INTERFACE ACTIVE  TASKS:  14   .08/SEC
FCPL FLD=FCRR,PLT=50
+ FILE NAME          REC REQS  ....5...10...15...20...25...30...35...40...45...50
+ SQLDEMO.EMPLDEMO    10.26  *****|...|...|...|...|...|...|...|...|...|
+ SYSSQL.SQLDD         6.64  *****|...|...|...|...|...|...|...|...|...|

```

9

Buffers

Information regarding the various buffer data provided by PreAlert is covered in these sections:

Buffer Selection	259
Buffer Display Line Commands	262
Buffer Horizontal Display	263
Buffer Detailed Display	268
Buffer Plots	271

Buffer Selection

The BFSL line command is used to specify selection criteria which are then used by the BFFR line command to select buffers for display. The BFSL line command allows you to enter keywords to restrict the buffer display by buffer name, input and output rate, record request rate, and exception status.

The BFSL line command is usually followed by the BFFR line command. BFSL only allows entry of the selection keywords; actual selection occurs in the BFFR line command.

Keyword	Description
BNM= <i>mask (s)</i>	Specifies one to eight buffer name masks. Buffers are selected by their name. The BFFR line command displays the buffer name.
IOR= <i>nnn</i>	Specifies Input and Output rate parameter. Buffers with an Input and Output rate equal to or higher than the specified value are selected for display. The BFFR line command displays the Input and Output rate.
RQR= <i>nnn</i>	Specifies record request rate parameter. Buffers with a record request rate equal to or higher than the specified value are selected for display. The BFFR line command displays the record request rate.

Keyword	Description
EXA=xxx	Specifies exception analysis status parameter. Buffers having one or more exceptions are selected for display. Refer to "IDMS Buffer Exception Analysis" on page 400.
	Y One or more exceptions
	N No exceptions
REP=xxx	Specifies the Auto-repeat option. When the number of buffers selected for display exceeds the number that can be displayed across the screen, the line commands are repeated until all selected buffers are displayed. Refer to "Auto-repeat Option" on page 27.
	Y Request Auto-repeat option
	N Suppress Auto-repeat option
SRT=xxx	Specify the sort field, default sequence. The display of selected buffers is sorted on the specified field by using a default sort sequence.
SRT<xxx	Specify the sort field, ascending sequence. The display of selected buffers is sorted in ascending order on the specified field.
SRT>xxx	Specify the sort field, descending sequence. The display of selected buffers is sorted in descending order on the specified field.

Possible sort field keywords are as follows:

<u>Keyword</u>	<u>Sort Field</u>
BFFR	Buffer name
BFBW	Buffer wait count
BFRD	Physical reads
BFRF	Reads found in buffer
BFUT	Buffer utilization ratio
BFRP	Percentage reads found in buffer
BFWR	Physical writes
BFIO	Physical Input and Output count
BFIR	Physical Input and Output rate

Keyword	Description
BFRQ	Record request count
BFRR	Record request rate
CNT= <i>nnn</i>	Specifies the buffer display count. Only the first <i>nnn</i> selected buffers are displayed. This can be used to limit the number of buffers displayed with the BFHL line command.

In [Figure 139](#), the BFSL line command selected all buffers, sorted by buffer name.

Figure 139 • BFSL line command

COMMAND:_____ BFFRDEFN 8:47:27.0 92.052 96.34% .TUT FOR TUTORIAL									
IDMS IDMSDC1 V1 IDMS INTERFACE ACTIVE TASKS: 24 7.33/SEC									
. Buffer Displays - Sorted by IDMS Buffer Name									
BFSL SRT=BFRR									
BFFR	BUF15476	BUF15476	BUF23476	BUF4084	BUF4084A	BUF4084B	BUF4276	BUF7476	+
+	A								
BFSZ	15476	15476	23476	4084	4084	4084	4276	7476	
BFBW	0	0	0	0	0	0	0	0	
BFRD	97474	202955	158071	665076	108917	145741	52692	215364	
BFWR	1315	2661	16133	40283	32545	2070	215	50257	
BFRF	2.68852M	5.64904M	563627	10.8781M	645919	3.16390M	304706	3.59119M	
BFRP	96.50%	96.53%	78.09%	94.23%	85.57%	95.59%	85.25%	94.34%	
BFUT	28.58	28.83	4.56	17.35	6.93	22.70	6.78	17.67	
=====									
BFFR	BUF7476A	BUF7476B	GENERAL-		SCRATCH-				
+			BUFFER		BUFFER				
BFSZ	7476	7476	4084		4084				
BFBW	0	0	0		0				
BFRD	71819	38999	11949		1667				
BFWR	5449	28265	5		1280				
BFRF	901245	777312	42439		37016				
BFRP	92.61%	95.22%	78.03%		95.69%				
BFUT	13.54	20.93	4.55		23.20				
=====	=====		9 LINE(S)		REPEATED		=====		

Buffer Display Line Commands

Command	Display
BFFR	Buffer name. If the buffer name is more than 8 bytes long, 2 lines display the entire buffer name. Overflow indicator (+) available.
BFPG	Buffer Pages Maximum/In-use
BFSZ	Buffer Page Size
BFXX	Buffer Exception Definition/Status (<i>nnn/abc</i>)
	<i>nnn</i> Exception definition number
	<i>a</i> Exception status
	<ul style="list-style-type: none"> . Exception did not occur * Exception occurred L Exception limit reached (LIM=<i>n</i>) X Exception limit-x reached (LMX=<i>n</i>) D Exception delayed (DLY=<i>n</i>) T Exception time delayed (TDL=<i>n</i>) I Exception bypassed, time interval (TIN=<i>n</i>) R Exception bypassed, time of day range (TOD< or TOD<)
	<i>b</i> Screen chaining status
	<ul style="list-style-type: none"> . Not requested * Screen chaining requested L Screen chaining limit reached (SLM=<i>n</i>) D Screen chaining delayed (SDL=<i>n</i>)
	<i>c</i> Command status
	<ul style="list-style-type: none"> . Not requested * Command issued or job submitted L Command limit reached (CLM=<i>n</i>) D Command delayed (CDL=<i>n</i>)
BFBW	Total Buffer Waits
BFRD	Number of Physical Reads

Command	Display
BFWR	Number of Physical Writes
BFIO	Total Input and Output Count
BFIR	Current Input and Output Rate
BFRQ	Total Record Request Count (read or write)
BFRR	Current Record Request Rate
BFRF	Number of Pages Found in Buffer
BFRP	Percentage of Pages Found in Buffer
BFUT	Buffer Utilization Ratio
BFCC	Reads Found in Cache
BFCP	Percentage of Reads Found in Cache
BFCU	Cache Utilization Ratio
BIIR	Interval Input and Output Rate
BIRR	Interval Record Request Rate
BIRP	Interval Reads Found in Buffer Percentage
BIUT	Interval Buffer Utilization Ratio
BIBW	Interval Buffer Wait Count
BICC	Interval Reads Found in Cache
BICP	Interval Reads Found in Cache Percentage
BICU	Interval Cache Utilization Ratio

Buffer Horizontal Display

Information for buffers can be displayed in a horizontal format. That is, the display follows a more traditional report format. The information for each buffer displays on a single line, with further buffers displaying on additional lines.

The BFHL line command displays buffer statistics in one of either three or four formats, three for IDMS 10.2 or 12.x CVs or four for IDMS 14.x or 15.x CVs. You specify the format with the BFHL line command using a number from 1 through 3 or 4, depending on your CV. BFHL displays the specified report format. When you do not specify the format number, a default format number is selected. You can adjust the format number using the .RIGHT control command to add 1 to the format number or .LEFT to subtract 1.

The buffers displayed by BFHL are selected using the selection keywords specified via the BFSL line command described in [Figure 138 on page 257](#).

In [Figure 140](#), the BFSL keywords specify that the list of buffers be sorted by buffer name. All buffers have been selected. The BFHL line command displays the database buffers by using the format number specified with the line command. In the example, several lines have been omitted from the actual BFHL display. The actual display would have generated additional lines until all the selected buffers were displayed. The scrolling commands, .UP (PF7) and .DOWN (PF8), may be used to display the entire report.

Figure 140 • BFHL screen

```

COMMAND:_____BFHL      11:58:02.6  93.299  95.62% .TUT for Tutorial
.
          IDMS Buffers, horizontal display

IDMS IDMS12G          V120  IDMS INTERFACE ACTIVE  TASKS:  14      .00/SEC

.  Use BFSL selection parms to select buffers for display.
BFSL SRT=BFFR

.  Specify 1, 2, or 3 for the BFHL display format number.
BFHL 1 1/3
+ BUF15476          30   30 15476      0  96.50%   28.58    3.7    53.5
+ BUF15476A        500  500 15476      0  96.53%   28.83    6.8   324.8
+ BUF23476         15   15 23476      0  78.09%    4.56    .2     .4
+ BUF4084          300  300 4084      0  94.23%   17.35   27.5   298.4
+ BUF4084A         75   75 4084      0  85.57%    6.93    .0     .2
+ BUF4084B         25   25 4084      0  95.59%   22.70    6.4    35.3
+ BUF4276          15   15 4276      0  85.25%    6.78    1.5     4.2
+ BUF7476          600  600 7476      0  94.34%   17.67   10.8   592.0

```

[Figure 141](#) shows the three formats produced by the BFHL line command for IDMS 10.2 and 12.x CVs.

Figure 141 • BFHL line command

IDMS IDMSDC12	V120	IDMS INTERFACE ACTIVE	TASKS: 18	2.85/SEC
BFSL SRT=BFRR,CNT=5				
BFHL 1 1/3	Pages--Max	Size	Waits	RFB% Ratio I/Os Reqs
+ BUF15476	30 30	15476	0	96.50% 28.58 3.7 53.5
+ BUF15476A	500 500	15476	0	96.53% 28.83 6.8 324.8
+ BUF23476	15 15	23476	0	78.09% 4.56 .2 .4
+ BUF4084	300 300	4084	0	94.23% 17.35 27.5 298.4
+ BUF4084A	75 75	4084	0	85.57% 6.93 .0 .2
BFHL 2 2/3	Total	Rec Req	Reads	Writes Found RFB% Ratio
+ BUF15476	2.78599M		97474	1315 2.68852M 96.50% 28.58
+ BUF15476A	5.85199M		202955	2661 5.64904M 96.53% 28.83
+ BUF23476	721698		158071	16133 563627 78.09% 4.56
+ BUF4084	11.5431M		665076	40283 10.8781M 94.23% 17.35
+ BUF4084A	754836		108917	32545 645919 85.57% 6.93
BFHL 3 3/3	Interval	Waits	RFB%	Ratio I/Os Reqs
+ BUF15476		0	96.61%	29.49 2.2 64.8
+ BUF15476A		0	96.30%	27.02 5.1 137.8
+ BUF23476		0	72.69%	3.66 3.3 12.0
+ BUF4084		0	93.92%	16.44 17.1 279.6
+ BUF4084A		0	82.18%	5.66 3.5 19.6

[Figure 142](#) shows the four formats produced for IDMS 14.0 CVs by the BFHL line command.

Figure 142 • BFHL line command

```

IDMS IDMS14          V140  IDMS INTERFACE ACTIVE  TASKS:  14    .00/SEC
.  Use BFSL selection parms to select buffers for display.
BFSL SRT=BFFR,CNT=3
.  Specify 1, 2, or 3 for the BFHL display format number.
BFHL 1 1/4          Pages--Max  Size  Waits    RFB%    Ratio    I/Os    Reqs
+ DBOL_BUFFER      10    10    9084        0    .00%    1.00    .0    .0
+ DEFAULT_BUFFER   500 1000  4284        0  59.53%    2.47    .5    4.8
+ EMPLDEMO_BUFFER  500 1000  4284        0  86.31%    7.30    .4    3.1
BFHL 2 2/4          Total  Rec Req    Reads    Writes    Found    RFB%    Ratio
+ DBOL_BUFFER              4        4        0        0    .00%    1.00
+ DEFAULT_BUFFER          5820    2355    24    3465  59.53%    2.47
+ EMPLDEMO_BUFFER        738    101     7    637  86.31%    7.30
BFHL 3 3/4 Interval  Waits    RFB%    Ratio    I/Os    Reqs    Cache    RFC%
+ DBOL_BUFFER              0        0    .0        .0    .0        0
+ DEFAULT_BUFFER          0  89.64%    9.66    .4    3.8        0    .00%
+ EMPLDEMO_BUFFER          0  86.43%    7.37    .3    2.4        0    .00%
BFHL 4 4/4          Cache  Hits    RFC%    Ratio    Intrvl    RFC%    Ratio
+ DBOL_BUFFER              0    .00%        0        0
+ DEFAULT_BUFFER          0    .00%        0    .00%
+ EMPLDEMO_BUFFER          0    .00%        0    .00%

```

The BFHL formats are described in sections ["BFHL Format 1" on page 267](#) through ["BFHL Format 4 \(Cache Statistics\) IDMS 14.0 and up only" on page 268](#).

BFHL Format 1

Column Heading	Description
Pages	Current buffer pages allocated
Max	Maximum buffer pages allowed
Size	Buffer page size, bytes
Waits	Long-term buffer wait count
RFB%	Long-term reads found in buffer percentage
Ratio	Long-term buffer utilization ratio
I/Os	Current page Input and Output rate
Reqs	Current record request rate

BFHL Format 2 (Totals)

Column Heading	Description
Rec Req	Records requested
Reads	Pages read
Writes	Pages written
Found	Records found in buffer
RFB%	Long-term reads found in buffer percentage
Ratio	Long-term buffer utilization ratio

BFHL Format 3 (Interval Statistics)

Column Heading	Description
Waits	Interval buffer wait count
RFB%	Interval reads found in buffer percentage
Ratio	Interval buffer utilization ratio
I/Os	Interval page Input and Output rate
Reqs	Interval record request rate
Cache	Interval pages found in cache (IDMS 14.0 and up)
RFC%	Interval percentage cache hits (IDMS 14.0 and up)

BFHL Format 4 (Cache Statistics) IDMS 14.0 and up only

Column Heading	Description
Hits	Total reads found in cache
RFC%	Total percentage cache hits
Ratio	Total cache utilization ratio
Intrvl	Interval reads found in cache
RFC%	Interval percentage cache hits
Ratio	Interval cache utilization ratio

Buffer Detailed Display

The BFZZ line command provides a detailed display of the statistics for a single buffer. The buffer must be identified through the SPY feature, which uses cursor placement to identify the buffer to be displayed by BFZZ. Refer to ["SPY Feature" on page 34](#) for guidelines on using SPY.

In [Figure 143](#), the SPYIBF screen was displayed after the .SPY command identified the DEFAULT_BUFFER buffer.

Figure 143 • SPYIBF screen

COMMAND: _____ SPYIBF 12:48:54.5 93.222 95.00% SPY SCREEN ACTIVE									
IDMS IDMSDC12 V120 IDMS INTERFACE ACTIVE TASKS: 18 2.85/SEC									
. Buffer detailed display for SPY									
BFZZ DEFAULT_BUFFER									
		Total	Delta	Rate	Interval	Rate			
+	Size: 4284	Pages Written:	4979	17	1.25	1141	1.20		
+	In-use: 30	Pages Read:	18355	65	4.81	4790	5.05		
+	Max: 60	Page I/Os:	23334	82	6.07	5931	6.26		
+	Init: 30	Records Reqs:	172377	611	45.25	39511	41.72		
+	Addtl: 30	In buffer:	154022	546	40.44	34721	36.66		
+	GetStg:OPSYS	Percent Found:	89.35%			87.87%			
+	PreFet:ALLOWED	Util Ratio:	9.39			8.24			
+	Min: 500	Waits:	0	0		0			
. To select another buffer for BFZZ, enter .SPY after COMMAND:									
. place the cursor on the desired buffer, and press enter.									
BFSL SRT=BFRR									
BFHL 1/3		Pages--Max	Size	Waits	RFB%	Ratio	I/Os	Reqs	
+	DBOL_BUFFER	5 5	3868	0	.00%	1.00	.0	.0	
+	DEFAULT_BUFFER	30 60	4284	0	89.35%	9.39	6.0	45.2	
+	DICTDB-BUFFER	15 15	7484	0	78.70%	4.69	.7	3.1	
+	DLODD-BUFFER	15 15	7484	0	93.04%	14.38	1.2	16.3	

The BFZZ line command displays detailed statistics for the buffer, as described in ["Line 1" on page 269](#) through ["Line 13" on page 271](#).

Line 1

Field	Description
(untitled)	Buffer name.
Total	(Column heading only) All statistics in this column show total activity for the buffer since the buffer was opened.
Delta	(Column heading only) All statistics in this column show activity count during the most recent PreAlert sample.
Rate	(Column heading only) All statistics in this column show activity rate (per second) during the most recent PreAlert sample.
Interval	(Column heading only) All statistics in this column show activity count during the current PreAlert statistics interval for the IDMS CV.
Rate	(Column heading only) All statistics in this column show activity rate (per second) during the current PreAlert statistics interval for the IDMS CV.

Line 2

Field	Description
Size	Buffer page size in bytes.
Pages Written	Pages written from the buffer.

Line 3

Field	Description
In-use	Number of buffer pages in-use.
Pages Read	Pages read into the buffer.

Line 4

Field	Description
Max	Maximum number of pages allowed.
Page I/Os	Page Inputs and Outputs (reads + writes) for the buffer.

Line 5

Field	Description
Init	Initial number of pages allocated.
Records Reqs	Records requested using the area.

Line 6

Field	Description
Addtl	Number of additional pages allocated to satisfy increases in the number of pages in use.
In buffer	Record requests found in a buffer, no page read performed.

Line 7

Field	Description
GetStg	Storage source (operating system or IDMS-DC storage).
Percent Found	Percentage of records requested found in the buffer, for total and interval activity.

Line 8

Field	Description
PreFet	Pre-fetch of records (allowed or not allowed).
Util Ratio	Buffer utilization ratio, for total and interval activity.

Line 9

Field	Description
Min	Minimum number of records to pre-fetch.
Waits	Number of buffer waits.

Line 10

Field	Description
IDXBFFR EXA	Buffer exception definitions (number and status). Refer to the BFZZ line command description in "Buffer Display Line Commands" on page 262 for information on the status display.

Note:

Line 10 will be displayed only when one or more buffer exception definitions have been associated with the buffer.

Line 11

Field	Description
Cache Hits	Pages found in a cache file, no page read performed.

Line 12

Field	Description
Cache Pct	Percentage of page "reads" found in a cache file, for total and interval activity. Page reads does not include pages found in an IDMS buffer.

Line 13

Field	Description
Util Ratio	Cache utilization ratio for total and interval activity. Computed as physical reads plus cache hits divided by physical reads.

Note:

Lines 11 through 13 are displayed for IDMS 14.0 CVs and up.

Buffer Plots

The BFPL line command plots specific statistics for selected buffers. Use keywords to select buffers for display and to specify the statistic to be plotted.

The buffers may be selected in one of three ways:

- Selection keywords specified with the BFPL line command are used to select the buffers:
 BNM= buffer names
 MIN= minimum value
 SRT= sort field keywords
- Buffers are selected in a previous BFFR line command. If no selection keywords have been used, the plot will include only the buffers selected in a previous BFFR line command.
- If neither of the selection keywords nor the BFFR line command has been used, the MIN=1 default is used to select buffers where the plot field value is 1 or more.

Keyword	Function
BNM=xxx	Specifies up to eight buffer name masks to select buffers for display. The buffer names may be masked using an asterisk (*).
FLD=xxx	Specifies the field to be plotted; default is BFIR.
	BFIR Input and Output Rate
	BFRR Record Request Rate
	BFRP Reads Found in Buffer Percent
	BFUT Buffer Utilization Ratio
	BIIR Interval Input and Output Rate
	BIRR Interval Record Request Rate
	BIRP Interval Reads Found in Buffer Percent
	BIUT Interval Buffer Utilization Ratio
SRT=xxx	Specifies the sort field. Defaults to the plot field.
SRT<xxx	Specifies the sort field, ascending sequence.
SRT>xxx	Specifies the sort field, descending sequence.
	Possible sort field keywords are as follows:

<u>Keyword</u>	<u>Sort Field</u>
BFFR	Buffer Name
BFRR	Record Request Rate
BFIR	Input and Output Rate
BFRP	Reads Found in Buffer Percent

Keyword	Function
	BFUT Buffer Utilization Ratio
	BIIR Interval Input and Output Rate
	BIRR Interval Record Request Rate
	BIRP Interval Reads Found in Buffer Percent
	BIUT Interval Buffer Utilization Ratio
PLT= <i>nnn</i>	Specifies the plot measurement scale. If the specified scale is less than 50, the scale is rounded up to the next multiple of 10. If greater than 50, it is rounded up to the next multiple of 50. The defaults for the scale follow:
	BFRR Default is 500 record requests/second
	BFIR Default is 100 Inputs and Outputs per <i>second</i>
	BFRP Default is 100 percent
	BFUT Default is 20 requests to reads
	BIIR Default is 100 Inputs and Outputs per <i>second</i>
	BIRR Default is 500 record requests/second
	BIRP Default is 100 percent
	BIUT Default is 20 requests to reads
MIN= <i>nnn</i>	Specifies the minimum value to be plotted. Default is 1. Devices with the selected value less than the minimum are not displayed.
YEL= <i>nnn</i>	Specifies the yellow plot threshold. The yellow plot threshold is specified as a percentage of the plot measurement scale. When the size of the plot exceeds the yellow threshold, the plot will be displayed in yellow if color support is active. Default is specified in the userdata UDPARMS macro, PLOTYEL keyword.
RED= <i>nnn</i>	Specifies the red plot threshold. The red plot threshold is specified as a percentage of the plot measurement scale. When the size of the plot exceeds the yellow threshold, the plot will be displayed in red if color support is active. If color support is not active, the plot will be highlighted. Default is specified in the userdata UDPARMS macro, PLOTRED keyword.

Keyword	Function
EXA= <i>x</i>	Specifies the exception color option. Plots will be displayed in white (or highlighted) when an exception occurs for the plot field. The exception color option has precedence over the red and yellow color options; if the exception occurs, the plot is displayed in white regardless of the red and yellow thresholds. If the exception does not occur, the red and yellow color options may be suppressed.
Y	Request exception color option.
O	Request exception color option, suppress red and yellow when the exception has not occurred.

In [Figure 144](#), the BFPL line command plotted the Input and Output rate for the buffers selected by the preceding BFFR line command. The buffers were displayed in the same order as in the BFFR line command, sorted by buffer name.

Figure 144 • BFPL line command

IDMS IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS: 22	7.24/SEC
BFSL SRT=BFFR				
BFFR	BUF15476	BUF15476	BUF23476	BUF4084
				BUF4084A
				BUF4084B
				BUF4276
				BUF7476
				+
				A
BFRP	95.57%	97.10%	77.30%	92.63%
				66.37%
				96.48%
				84.79%
				93.99%
BFRR	122.03	3.23	97.64	239.96
				8.42
				1.07
				98.43
				110.87
BFIR	8.32	1.27	16.84	25.66
				3.72
				.29
				16.74
				3.33
BFPL				
+ BUFFER NAME	I/O RATE	...	10...	20...
			30...	40...
			50...	60...
			70...	80...
			90...	100
+ BUF15476	8.32	****	|...	|...
+ BUF15476A	1.27	*	|...	|...
+ BUF23476	16.84	*****	|...	|...
+ BUF4084	25.66	*****	|...	|...
+ BUF4084A	3.72	**	|...	|...
+ BUF4084B	.29	...	|...	|...
+ BUF4276	16.74	*****	|...	|...
+ BUF7476	3.33	**	|...	|...

In [Figure 145](#), the Input and Output rate was plotted for all buffers whose Input and Output rate was greater than 1 Input and Output per second (the MIN=1 default). The buffers were displayed in descending order by the Input and Output rate.

Figure 145 • BFPL line command

IDMS	IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS:	22	7.24/SEC
BFPL						
+	BUFFER NAME	I/O RATE	...	10...	20...	30...
+	BUF4084	25.66	*****	.....	.....	.....
+	BUF23476	16.84	*****	.....	.....	.....
+	BUF4276	16.74	*****	.....	.....	.....
+	BUF15476	8.32	****	.....	.....	.....
+	GENERAL-BUFFER	6.75	***	.....	.....	.....
+	BUF4084A	3.72	**	.....	.....	.....
+	BUF7476	3.33	**	.....	.....	.....
+	BUF15476A	1.27	*	.....	.....	.....

10

Journal Definitions

The chapter provides various Program Definition information regarding PreAlert.

Journals are used by IDMS to record before and after images of updated records and to indicate the status of a task through start, finish, and commit checkpoint records. Use these records to provide restart and recovery processing.

PreAlert may dynamically allocate and read the journals to obtain accurate status data for each journal. The IJRNL and IJRNLF keywords in the userdata UDPARMS macro control how PreAlert handles the journals. See the "Userdata Macros" chapter in the *ASG-PreAlert IDMS/MVS System Guide*.

Select journal definitions for display using the JRNL line command ([Figure 146](#)). This command selects all journal definitions for display, including the name of the journal.

Figure 146 • JRNL line command

```
IDMS (jobname) V1 IDMS INTERFACE ACTIVE TASKS: 11 1.73/SEC
JRNL J1JRNL J2JRNL J3JRNL SYSJRNL
JRST .A . . . F. . CLOSED
JRPT 55993 55993 55993
JRPU 16265 0 0
JRVS DBA007 DBA004 * DBA008
JRXL 535 12 670 6 74 0
JRXH 615 11 750 5 84 14
```

Journal Display Line Commands

Command	Display
JRNL	Journal Name
JRST	Journal Status (<i>abc</i>) <i>a</i> F / . Full/Not Full <i>b</i> A / . Active/Not Active <i>c</i> C / O /. IDMSAJNL flag, Condense /Offload/Not Active . . . Journal Offloaded
JRPT	Number of pages in journal
JRPU	Number of pages used
JRVS	VOLSER where the journal is allocated
JRXL	Low Cylinder/Head extent limit
JRXH	High Cylinder/Head extent limit

Note:

If an asterisk (*) precedes the VOLSER, the journal has been allocated with multiple extents. The data shown, VOLSER, and extent limits represent the first extent only.

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Line Definitions

Information regarding the various line definition data provided by PreAlert is covered in these sections:

Line Definition Selection.279

Line Definition Display Line Commands281

Line Definition Selection

The LISL line command is used to specify selection criteria, which are then used by the LINE command to select line definitions for display. The LISL command allows you to enter keywords to restrict the line definition display by line ID or access method.

The LISL command is usually followed by the LINE command. LISL only allows entry of the selection keywords; actual selection occurs in the LINE command.

Keyword	Description
LIN= <i>mask (s)</i>	Specifies one to eight line ID masks. Line definitions are selected by their name. The LINE line command displays the line ID.
AMS= <i>xxx</i>	Specifies access method parameters. Line definitions may be selected by the access method used to communicate with the terminals.
B	BSC (BTAM)
C	CTC (Channel to Channel)
E	EXCP (Channel Attached)
I	Online Simulation
Q	QSAM (Sequential)
S	SVC (Supervisor Call)
T	TCAM

Keyword	Description
U	UCF
V	VTAM
W	WTO (Console)
REP=xxx	Specifies the Auto-repeat option. When the number of line definitions selected for display exceeds the number that can be displayed across the screen, the line commands are repeated until all selected line definitions are displayed. Refer to the "Auto-repeat Option" on page 27 .
Y	Request Auto-repeat option
N	Suppress Auto-repeat option

In [Figure 147](#), the LISL line command selected VTAM and UCF line definitions for display.

Figure 147 • LISL line command

```

COMMAND:_____ LINEDEFN 13:59:44.0 92.052 98.37% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS: 21 5.17/SEC
.      UCF and VTAM lines are selected thru the AMS=U,V parms.
LISL AMS=U,V
LINE UCFLINE  VTAM      VTAMTARS
LITP UCF /UCF VTAM/VTM VTAM/VTM
LIST INSERV    INSERV    INSERV
LITR          4        200      50
LIRC        1059      80075     5097
LIRE          0         37        2
LIWC        8061      82434     5354
LIWE          0         2         2
LIAP          GHADM01 GHADM10
LINR          1/ 20     1/ 10

```

Line Definition Display Line Commands

Command	Display
LINE	Line ID, Overflow indicator (+) available.
LITP	Line type/access method
LIST	Line Status
LITR	Number of terminals on the line
LIRC	Line Read count
LIRE	Line Read Error count
LIWC	Line Write count
LIWE	Line Write Error count
LIHS	Line Response Time histogram

VTAM Lines

Command	Display
LIAP	Line Application ID
LINR	Line NIB/RPL Count

BSC3 Lines

Command	Display
LINL	Number of lines

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Terminal Definitions

Information regarding the various terminal definitions provided by PreAlert is covered in these sections:

Terminal Definition Selection	283
Terminal Definition Selection by Active Task	286
Terminal Definition Display Line Commands	287

Terminal Definition Selection

The TRSL line command is used to specify selection criteria which are then used by the TRPT line command to select terminal definitions for display. The TRSL line command allows you to enter keywords to restrict the terminal definition display by physical terminal ID, terminal type, line ID, access method, holding resources or used terminals.

The TRSL line command is followed by the TRPT line command. TRSL only allows entry of the selection keywords; actual selection occurs in the TRPT line command.

When program definitions are selected through TRSL keywords, the data is not included in Freeze Frame.

Keyword	Description
PTE= <i>mask (s)</i>	Specifies one to eight physical terminal ID masks. Terminal definitions are selected by terminal ID. The TRPT line command displays the program name.
TYP= <i>xxx</i>	Specifies terminal type parameters. Terminal definitions are selected by type, display or printer. The TRTP line command displays the terminal type. P Printers D Display terminals

Keyword	Description																						
LIN= <i>mask(s)</i>	Specifies one to eight line ID masks. Terminal definitions are selected by the line definition the terminal is associated with. The TRLI line command displays the line ID for the terminal.																						
AMS= <i>xxx</i>	Specifies access method parameters. Terminal definitions may be selected by the access method used to communicate with the terminals.																						
	<table> <tr> <th><u>Keyword</u></th><th><u>Definition</u></th></tr> <tr> <td>B</td><td>BSC (BTAM)</td></tr> <tr> <td>C</td><td>CTC (Channel to Channel)</td></tr> <tr> <td>E</td><td>EXCP (Channel Attached)</td></tr> <tr> <td>I</td><td>Online Simulation</td></tr> <tr> <td>Q</td><td>QSAM (Sequential)</td></tr> <tr> <td>S</td><td>SVC (Supervisor Call)</td></tr> <tr> <td>T</td><td>TCAM</td></tr> <tr> <td>U</td><td>UCF</td></tr> <tr> <td>V</td><td>VTAM</td></tr> <tr> <td>W</td><td>WTO (Console)</td></tr> </table>	<u>Keyword</u>	<u>Definition</u>	B	BSC (BTAM)	C	CTC (Channel to Channel)	E	EXCP (Channel Attached)	I	Online Simulation	Q	QSAM (Sequential)	S	SVC (Supervisor Call)	T	TCAM	U	UCF	V	VTAM	W	WTO (Console)
<u>Keyword</u>	<u>Definition</u>																						
B	BSC (BTAM)																						
C	CTC (Channel to Channel)																						
E	EXCP (Channel Attached)																						
I	Online Simulation																						
Q	QSAM (Sequential)																						
S	SVC (Supervisor Call)																						
T	TCAM																						
U	UCF																						
V	VTAM																						
W	WTO (Console)																						
RES= <i>xxx</i>	Specifies terminal resource usage parameter. Terminal definitions holding resources are selected for display. The TRST line command indicates that the terminal is holding resources.																						
	<table> <tr> <td>Y</td><td>Holding resources</td></tr> <tr> <td>N</td><td>Not holding resources</td></tr> </table>	Y	Holding resources	N	Not holding resources																		
Y	Holding resources																						
N	Not holding resources																						
USE= <i>xxx</i>	Specifies terminal usage parameter. Terminal definitions that have been used since the IDMS CV was started are selected for display.																						
	<table> <tr> <td>Y</td><td>Terminal has been used</td></tr> <tr> <td>N</td><td>Terminal has not been used</td></tr> </table>	Y	Terminal has been used	N	Terminal has not been used																		
Y	Terminal has been used																						
N	Terminal has not been used																						
LUN= <i>mask(s)</i>	Specifies one to eight luname masks. Terminals are selected by the VTAM luname for the terminal. The TRVN line command displays the VTAM luname. Only VTAM terminals may be selected using LUN=luname.																						

Keyword	Description
REP=xxx	Specifies the Auto-repeat option. When the number of terminal definitions selected for display exceeds the number that can be displayed across the screen, the line commands are repeated until all selected terminal definitions are displayed. Refer to "Auto-repeat Option" on page 27 .
Y	Request Auto-repeat option
N	Suppress Auto-repeat option

In [Figure 148](#), the first TRSL selected UCF terminal definitions. The second TRSL selected VTAM terminal definitions. Both TRSL line commands specified REP=N to suppress the Auto-repeat feature.

Figure 148 • TRSL line command

```
COMMAND:          TERMDEFN  13:59:59.6  92.052  99.06% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE  TASKS:  21  5.17/SEC
.      UCF Terminal Definitions are selected through the AMS=U parameter.
TRSL AMS=U,REP=N
TRPT UCFPT01 UCFPT02 UCFPT03 UCFPT04
TRST  IN/DIS  IN/DIS  IN/DIS  IN/DIS
TRUS
TRUT
TRUI
TRUP
TRRC      619      342      80      18
TRWC      6335     1381     287     58
=====
.      VTAM Terminal Definitions are selected through the AMS=V parameter.
TRSL AMS=V,REP=N
TRPT DCPTE001 DCPTE002 DCPTE003 DCPTE004 DCPTE005 DCPTE006 DCPTE007 DCPTE008 +
TRVN GVC0350I GHADA00K GNC04506 GV11040T GR01051S GNB0740H GHJDC003 GVB1340U
TRST * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON * IN/CON
TRUI MBH8478 DETPPFI VSW9997 RVM7806 DSW5984 JCS3791 EGL2988 DSD4702
TRRC      854      582      643      854      659      828      733      543
TRWC      885      615      672      882      686      849      762      572
=====
```

Terminal Definition Selection by Active Task

Terminal definition selection also can be based on the active task display. The terminal definitions selected will be the same as those that are used by the active task display. This occurs when active tasks have been displayed and no terminal selection criteria were specified in the TRSL line command.

When terminal definitions are selected from active task displays, the data is included in Freeze Frame.

Terminal definition data, when displayed with Active Task displays, are included with the Active Task Auto-repeat option when selected; thus, the entire block is repeated as necessary to display all selected Active Tasks.

In [Figure 149](#), the terminal definitions were selected to match the active tasks displayed since no keywords were specified in TRSL.

Figure 149 • TRSL line command—active tasks

```

COMMAND: _____ ATTR      8:42:23.1  92.052  94.41% .TUT FOR TUTORIAL
IDMS IDMSDC1      V1      IDMS INTERFACE ACTIVE   TASKS:  24   7.33/SEC
ATSL TYP=UE
ATID   20336      20367      20362      20366      20358      20359      20360
ATCD ADS2        ADS2        MMFT010P MMFT050 ADS2        ADS2        ADS2
ATPN ADSOMAIN ADSOMAIN MMFA0012 MMFA0050 ADSOMAIN ADSOMAIN ADSOMAIN
ATPT TRPTE003 DCPTE062 TRPTE020 DCPTE007 DCPTE056 DCPTE063 DCPTE067
ATUI CXZVNGC DJB3754 DMGVSTE LASKCNI LLC1752 CPJ2294 ACW2861
ADLG GNMDU230 GANDI140                      GANDI100 AAPDI020 GANDI105
ATTT   2.35S      .05S      1.79S      .28S      2.31S      2.31S      2.29S
.      Related Terminal Definitions
TRSL
TRPT TRPTE003 DCPTE062 TRPTE020 DCPTE007 DCPTE056 DCPTE063 DCPTE067
TRTP 3277VTAM 3278VTAM 3277VTAM 3277VTAM 3278VTAM 3279VTAM 3278VTAM
TRLT TRLTE003 DCLTE062 TRLTE020 DCLTE007 DCLTE056 DCLTE063 DCLTE067
TRLI VTAMTARS VTAM      VTAMTARS VTAM      VTAM      VTAM      VTAM
TRST IN/CON IN/CON IN/CON IN/CON IN/CON IN/CON IN/CON
TRUI CXZVNGC DJB3754 DMGVSTE LASKCNI LLC1752 CPJ2294 ACW2861
TRUS
TRUT
=====

```

Terminal Definition Display Line Commands

Terminal Definition Display line commands and their definitions are listed in the following tables: ["General Commands" on page 287](#) through ["Printers" on page 288](#).

General Commands

Command	Display
TRPT	Physical terminal ID; overflow indicator (+) available.
TRLT	Logical terminal ID
TRLI	Physical line ID
TRTP	Terminal Type/Access Method
TRRC	Terminal Read count
TRWC	Terminal Write count
TRST	Terminal Status (* <i>aaa/bbb</i>)
	* Terminal is Holding Resources
	<i>aaa</i> : INT Terminal is In-service
	OUT Terminal is out-of-service
	<i>bbb</i> : CON Terminal is Connected
	DIS Terminal is Disconnected
RCES	Resources held by a Logical Terminal. For the description of the RCES line command, refer to "Logical Terminal Usage" on page 318 .
LTRM	Logical terminal usage summary. For the description of the LTRM line command, refer to "Logical Terminal Usage" on page 318 .

UCF Interface

Command	Display
TRUS	UCF System ID
TRUT	UCF Terminal ID/Program ID

Display Terminals

Command	Display
TRUI	User ID of Current User
TRUP	Current User Priority
TRPR	Terminal Priority
TRTC	Next task code

VTAM Terminals

Command	Display
TRVN	VTAM Terminal ID

BSC3 (BTAM) Terminals

Command	Display
TRPD	Poll Characters
TRSC	Selection Characters
TRRL	Relative Line ID

Printers

Command	Display
TRPC	Print classes bit map
TRRP	Report name being printed

13

IDMS CV Internals

Information regarding IDMS CV internals is provided in these sections:

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Program and Reentrant Pools	297
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Memory Map Display

The MMAP line command displays the IDMS region map. [Figure 150](#) shows the location of the major IDMS modules and data areas within its address space.

Figure 150 • MMAP line command

COMMAND: _____ IDMSMMAP 14:01:32.9 92.052 102.62% .TUT FOR TUTORIAL									
IDMS	IDMSDC1	V1	IDMS	INTERFACE	ACTIVE	TASKS:	21	5.17/SEC	
MMAP	RHDCOS00	00015800	DMCPRD	0002C008	IDMSDBIO	0004865C	IDMSDBMS		
0005C80C									
+	OPT	0006F810	CCE	0006FB80	XTA	0006FE30	SCAAREA	00071420	
+	RUA	000724F0	CSA	00072EF0	NLT	0007B360	DDT	0007C440	
+	LTT	0007C480	PTT	0008C5B8	QDT	000A4C00	TDT	000A4D00	
+	PDT	000ADEE0	TRCEBUFS	002AE000	TCA	002AE020	DCEAREA	002AE040	
+	TCEAREA	002AED00	MPMODTBL	002E84A0	ECBLIST	002E8940	RCA	002E9100	
+	RLEAREA	002E9160	RCEAREA	002FCDC8	DPEAREA	003211D0	ILEAREA	00325B98	
+	SCT	00326440	CSVCAREA	0032BEC0	PGMPOOL	0032F000	RENTPOOL	003AF000	
+	RHDCD04W	0042B600	RHDCD0ZU	0042BC00	RHDCD05V	0042D400	RHDCD03Q	00430600	
+	RHDCD07Q	00432800	RHDCRUSD	00432E00	RHDCLGSD	00433600	PMONCIOD	00434000	
+	PMONCROL	0043A600	STGPOOL	00517000	XALODBUF	00848000	ABENDSTG	00850000	
+	HIADDR	008504B0	ESE	00BB0270	EREAREA	00BB2010	SVC243	00FCE690	
+	XARENTPL	04561000	XASTGPL	05961000					
IDCB									
ADDR									
DUML	DUMP	ASID	200/IDMSDC1	ADDRESS:00072EF0					
DUMH	ADDRESS	+0.....3	+4.....7	+8.....B	+C.....F	*---E B C D I C--*			
DUMP	00072EF0	+000	47F0F9EE	00000000	00000000	00000000	* 09		*
DUMP	00072F00	+010	00000000	00000000	00000000	00000000	*		*
DUMP	00072F10	+020	00000000	00000000	00000000	00000000	*		*
DUMP	00072F20	+030	00000000	00000000	47F0A858	07FF0000	*	0Y	*
DUMP	00072F30	+040	96401000	91401000	00000001	00040008	*O J		*

IDMS Control Blocks

The IDCB line command is used to specify the name of a control block to be displayed with the DUMP line commands. The IDCB routines find the address of the specified control block, then pass it to the DUMP routines. This allows you to display other areas of the IDMS address space by using the ADDR line command (to alter the address of the data to be displayed).

These control block names are recognized by PreAlert.

Command	Block Name
CSA	Common System Area
OPT	Startup Options Table
TCA	Task Control Area

Command	Block Name
TDT	Task Definitions Table
RCA	Resource Control Area
PDT	Program Definitions Table
SCT	Storage Control Table
LT	Logical Terminal Table
DMCL	DMCL Table
CCE	Central Control Element
LKM	Lock Manager Control Block (IDMS 12.0 and up)
TCE= <i>taskid</i>	Task Control Element
DCE= <i>taskid</i>	Dispatch Control Element
VIB= <i>run unit id</i>	Run Unit Control Block
TDE= <i>taskcode</i>	Task Definition Element
PDE= <i>progrname</i>	Program Definition Element
PLE= <i>line-ID</i>	Physical Line Element
LTE= <i>lterm-ID</i>	Logical Terminal Element
PTE= <i>pterm-ID</i>	Physical Terminal Element
DPR= <i>areaname</i>	Database Area Control Block
BCR= <i>buffer.name</i>	Buffer Control Block

In [Figure 151](#), the first occurrence of IDCB defaults to locating the CSA.

Figure 151 • IDCB line command

```
IDMS (jobname)      V1    IDMS INTERFACE ACTIVE      TASKS:  11  1.73/SEC
IDCB
DUMH  ADDRESS      +0.....3 +4.....7 +8.....B +C.....F  *--E B C D I C--*
DUMP  0011B290 +000  47F0F9CC 00000000 00000000 00000000  *  0                      *
DUMP  0011B2A0 +010  00000000 00000000 00000000 00000000  *                      *
DUMP  0011B2B0 +020  00000000 00000000 00000000 00000000  *                      *
DUMP  0011B2C0 +030  00000000 00000000 47F0A858 07FE4040  *                      0Y  *
```

If DMCL was entered on the IDCB command line, the DMCL table displays [Figure 152](#).

Figure 152 • DMCL table

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE      TASKS:  11  1.73/SEC
IDCB                DUMP OF DMCL
DUMH  ADDRESS      +0.....3 +4.....7 +8.....B +C.....F  *--E B C D I C--*
DUMP  000F900C +000                C4D4F5F8      *          DM58*
DUMP  000F9010 +004  000FF55C 00100124 000FD3D8 000FC568  *  5*          LQ  E  *
DUMP  000F9020 +014  000FACA8 D7C4D4D3 D3C7D3D2 F0F261F1  *  YPDMCLGLB02/1*
DUMP  000F9030 +024  F461F8F8 F1F2F1F7 F2F94004 F1F0F0F0  *4/88121729 1000*

```

Storage Pools

The STPS line command displays a brief summary of the statistics kept for each storage pool. The STPL and STPM line commands display comprehensive statistics and a storage map of the storage pool. The STPS and STPL line commands are included in Freeze Frame; STPM is not. [Figure 153](#) depicts these line commands.

Figure 153 • STPL and STPM line commands

```

IDMS (jobname) V1      IDMS INTERFACE ACTIVE      TASKS:  11  1.73/SEC
STPS POOL  ADDRESS    SIZE    CUSHN  INUSE    HWM    SOS  FIX  CONTAINS TYPES:
+       0  000AF000    584K    24K    272K    384K    0   N   ALL
+       3  00141000    152K    32K     0K     0K     0   N   SH SK
+      12  00167000    120K    32K    20K    52K     0   N   SH SK US UK
+     130  01C00000    152K    32K     0K     0K     0   N   SH SK
+     237  01C26000    400K    40K     0K     0K     0   N   US UK

```

The following abbreviations are used to describe the types attributed to the storage pools, as displayed [Figure 153](#).

Display	Type	Display	Type
SH	Shared	US	User
SK	Shared-Kept	UK	User-Kept
TR	Terminal	DB	Database

The STPL line command displays storage pool statistics concerning size, utilization, and requests for storage. The STPM line command displays a map, giving a pictorial representation of the current usage of the storage pool. [Figure 154](#) depicts these line commands.

Figure 154 • STPL and STPM line commands

```

IDMS (jobname) V1      IDMS INTERFACE ACTIVE      TASKS:  11  1.73/SEC
STPL 0   STG POOL  0  CONTAINS TYPES: ALL
+      SIZE= 1464K  USEAGE      CURRENT      HWM      GET SCAN1=  2561  72%
+ CUSHION=   52K   LONG =   516K  35%      616K  42%   GET SCAN2=   225   6%
+ STG WAIT=    0   SHORT=   32K   2%      80K   5%   GET SCAN3=   795  22%
+ SOS CNT=    0   TOTAL=   548K  37%      696K  48%   GET REQS =  3579
+ FREE REQS=  3455  PAGES RELEASED=  1497  PAGE RELEASES=  958

```

For IDMS 14.0 systems and up, the STPL line command displays [Figure 155](#).

Figure 155 • STPL line command

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  18   4.02/SEC
STPL      STG POOL   0  CONTAINS TYPES: ALL
+      SIZE= 2032K   USEAGE  CURRENT      HWM          GET SCAN1=    7669   77%
+  CUSHION=   32K   TOTAL= 1288K  63%  1724K  84%      GET SCAN2=    2280   22%
+  SOS CNT=     0                                GET REQS =    9949
+ FREE REQS=   8879  PAGES RELEASED=         0  PAGE RELEASES=     0

```

The STPM line command displays the storage pool allocation map. Each 4K storage pool page is represented with a one-character code, as follows:

Code	4K Page Status
.	Free page
—	Free page, never used
K	User kept, no space available
+	User kept, space available
L	Long term use, no space available
<	Long term use, space available
S	Short term use, no space available
>	Short term use, space available

[Figure 156](#) depicts the STPM line command displays and storage pool allocation map.

Figure 156 • STPM line command

```

IDMS (jobname) V1 IDMS INTERFACE ACTIVE TASKS: 11 1.73/SEC
STPM 0 STG POOL 0 SIZE= 1464K INUSE= 584K HWM= 696K
+ FREE=. UNUSED=_ SHORT-FULL=S, PART=> LONG-FULL=L, PART=<
KEPT-FULL=K, PART=+
+ 000EC000 >>>SSS....S>.....
+ 0012C000
+ 0016C000
+ 001AC000 .....+..<<LL+<<<<L<LLLLLLL
+ 001EC000 LLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLL
+ 0022C000 LLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLLL

```

Program and Reentrant Pools

All active online programs, subschemas, and map definitions reside in either a program pool or a reentrant pool. The program pools contain the executable portions of non-reentrant and quasi-reentrant programs, typically the Procedure Division of COBOL programs. The reentrant pools contain truly reentrant programs such as IDMS service routines, or never-changing data such as subschema and map definitions. These pools may also be defined for XA (31-bit) mode processing.

The PRPL line command displays statistics for all program and reentrant pools defined. Statistics are displayed only for the defined pools (shown in [Figure 157](#)).

Figure 157 • PRPL line command

```

IDMS (jobname) V1      IDMS INTERFACE ACTIVE      TASKS:  11  1.73/SEC
PRPL  STATISTICS      PGM-24 POOL  RNT-24 POOL  PGM-31 POOL  RNT-31 POOL
+    NUMBER OF PAGES          250          800
+    PAGES IN USE             202          613
+    MAX PAGES USED (HWM)     249          742
+    PAGE SIZE (BYTES)        4096          512
+    POOL SIZE (BYTES)        1.02400M     409600
+    LOADS INTO POOL          8173          1612
+    WAIT TO LOAD COUNT       70           0
+    TOTAL PAGES LOADED       109073       23388

```

These line commands are used to display the program and reentrant pool maps.

Line Command	Allocation Map
PGPM	24-bit Program Pool
REPM	24-bit Reentrant Pool
PGXM	31-bit Program Pool
REXM	31-bit Reentrant Pool

Note:

Program and Reentrant Pool maps are not included in Freeze Frame option.

The status of each page of the pool is represented via these codes:

Code	Page Representation
.	Page is free
1	Page in use by one program
+	Page in use by multiple programs

[Figure 158](#) shows the use of line commands and page representations for the Program or Reentrant Pool map being displayed.

Figure 158 • PGPM and REPM line commands

[illegible]

System Statistics

PreAlert collects IDMS system statistics each time the IDMS line command is used to monitor the CV. The system statistics represent the overall usage or activity of resources in general. That is, the database statistics represent the activity for all databases within the CV; they do not distinguish between areas or users.

PreAlert retains the previous set of system statistics from the last time the CV was monitored. PreAlert uses the previous statistics to calculate the short term or current rates. These rates reflect resource usage since the last sample.

Some of the system statistics are also retained for interval statistics. At the beginning of each statistics interval, PreAlert retains a set of statistics. These are used to calculate the long term or interval rates.

Interval rates reflect resource usage since the beginning of the current statistics interval. Refer to ["IDMS Statistics Interval" on page 316](#).

When current or interval rates are displayed, PreAlert displays the current value followed by either the previous or interval value. The delta is calculated as the difference between the two values, and the rate is calculated as the delta divided by the amount of time between collection of values. The rate is always reported as the usage per second.

Database Statistics

The SSDB, ISDB, and CSDB line commands display the IDMS system statistics for database activity. These statistics show the activity for all database areas within the IDMS CV.

Command	Database Statistics
SSDB	Current values and rates
ISDB	Interval values and rates
CSDB	Current values only

[Figure 159](#) depicts the line commands that display the IDMS stem statistics for database activity.

Figure 159 • SSDB and ISDB line commands

IDMS (jobname)	V1	IDMS INTERFACE ACTIVE	TASKS: 18	2.85/SEC	
ISTX STATISTICS	INTERVAL =	8:30:01.7	8:40:00.0	75%	
SSDB	DATA BASE STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL PAGES READ	2.49103M	2.49050M	527	31.31
+	TOTAL PAGES WRITTEN	544088	544044	44	2.61
+	TOTAL PAGES REQUESTED	57.8045M	57.7942M	10268	610.10
+	TOTAL CALC RECS NO-OVERFLOW	14226	14223	3	.17
+	TOTAL CALC RECS OVERFLOW	6724	6721	3	.17
+	TOTAL VIA RECS NO-OVERFLOW	154902	154894	8	.47
+	TOTAL VIA RECS OVERFLOW	48468	48460	8	.47
+	TOTAL RECORDS REQUESTED	59.1561M	59.1472M	8861	526.50
+	TOTAL RECORDS CURRENT OF RUN-UNIT	18.5007M	18.4950M	5669	336.83
+	TOTAL DATA BASE REQUESTS	31.0288M	31.0193M	9458	561.97
+	TOTAL RECORDS RELOCATED	0	0	0	.00
+	TOTAL FRAGMENTS STORED	4657	4657	0	.00
ISDB	DATA BASE STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL PAGES READ	2.49103M	2.47990M	11133	24.57
+	TOTAL PAGES WRITTEN	544088	543213	875	1.93
+	TOTAL PAGES REQUESTED	57.8045M	57.6671M	137400	303.31
+	TOTAL CALC RECS NO-OVERFLOW	14226	14178	48	.10
+	TOTAL CALC RECS OVERFLOW	6724	6711	13	.02
+	TOTAL VIA RECS NO-OVERFLOW	154902	154665	237	.52
+	TOTAL VIA RECS OVERFLOW	48468	48316	152	.33

Program and Reentrant Pool Statistics

The SSPL, ISPL, and CSPL line commands display the IDMS system statistics for the program and reentrant pools. The statistics are maintained for each pool individually: standard 24-bit program pool, standard 24-bit reentrant pool, XA 31-bit program pool, and XA 31-bit reentrant pool.

Command	Program pool statistics
SSPL	Current values and rates
ISPL	Interval values and rates
CSPL	Current values only

[Figure 160](#) depicts the line commands that display the IDMS system statistics for the program and reentrant pools.

Figure 160 • SSPL and ISPL line commands

IDMS	IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS: 18	2.85/SEC
ISTX	STATISTICS	INTERVAL =	8:30:01.7	8:40:00.0	75%
SSPL	PROGRAM/REENTRANT POOL STATS	CURRENT	PREVIOUS	DELTA	RATE
+	STD PROGRAM POOL LOADS	162	162	0	.00
+	STD PROGRAM POOL LOAD WAITS	0	0	0	.00
+	STD PROGRAM POOL PAGES LOADED	1582	1582	0	.00
+	STD REENTRANT POOL LOADS	160	160	0	.00
+	STD REENTRANT POOL LOAD WAITS	0	0	0	.00
+	STD REENTRANT POOL PAGES LOADED	2698	2698	0	.00
+	XA PROGRAM POOL LOADS	0	0	0	.00
+	XA PROGRAM POOL LOAD WAITS	0	0	0	.00
+	XA PROGRAM POOL PAGES LOADED	0	0	0	.00
+	XA REENTRANT POOL LOADS	1630	1625	5	.29
+	XA REENTRANT POOL LOAD WAITS	0	0	0	.00
+	XA REENTRANT POOL PAGES LOADED	54962	54758	204	12.12
ISPL	PROGRAM/REENTRANT POOL STATS	CURRENT	PREVIOUS	DELTA	RATE
+	STD PROGRAM POOL LOADS	162	124	38	.08
+	STD PROGRAM POOL LOAD WAITS	0	0	0	.00
+	STD PROGRAM POOL PAGES LOADED	1582	1233	349	.77
+	STD REENTRANT POOL LOADS	160	157	3	.00
+	STD REENTRANT POOL LOAD WAITS	0	0	0	.00
+	STD REENTRANT POOL PAGES LOADED	2698	2631	67	.14
+	XA PROGRAM POOL LOADS	0	0	0	.00
+	XA PROGRAM POOL LOAD WAITS	0	0	0	.00
+	XA PROGRAM POOL PAGES LOADED	0	0	0	.00

Task Statistics

The SSTK, ISTK, and CSTK line commands display IDMS system statistics for task activity. Additionally, the CSTK line command also displays the IDMS DC log percentage used.

Command	Task Activity Statistics
SSTK	Current values and rates
ISTK	Interval values and rates
CSTK	Current values only

[Figure 161](#) depicts line commands that display IDMS system statistics for task activity.

Figure 161 • SSTK and ISTK line commands

IDMS	IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS: 18	2.85/SEC
ISTX	STATISTICS INTERVAL =	8:30:01.7	8:40:00.0	75%	
SSTK	TASK STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL TASKS PROCESSED	20686	20638	48	2.85
+	TOTAL SYSTEM TASKS PROCESSED	1761	1760	1	.05
+	TOTAL USER MODE TIME	4:15M	4:14M	.99S	5.9%
+	TOTAL SYSTEM MODE TIME	4:01H	4:01H	4.71S	28.0%
+	SYSTEM TASKS CURRENTLY ACTIVE	16	16		
+	TOTAL TASKS CURRENTLY ACTIVE	18	19		
+	MAX-TASK CONDITION COUNT	0	0	0	.00
+	SHORT-ON-STORAGE CONDITION COUNT	0	0	0	.00
+	TOTAL TASKS ABENDED	6	6	0	.00
+	RUN-AWAY TASK ABEND COUNT	0	0	0	.00
ISTK	TASK STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL TASKS PROCESSED	20686	19046	1640	3.62
+	TOTAL SYSTEM TASKS PROCESSED	1761	1723	38	.08
+	TOTAL USER MODE TIME	4:15M	3:50M	24.59S	5.4%
+	TOTAL SYSTEM MODE TIME	4:01H	4:00H	1:08M	15.2%
+	SYSTEM TASKS CURRENTLY ACTIVE	16	16		
+	TOTAL TASKS CURRENTLY ACTIVE	18	17		
+	MAX-TASK CONDITION COUNT	0	0	0	.00
+	SHORT-ON-STORAGE CONDITION COUNT	0	0	0	.00
+	TOTAL TASKS ABENDED	6	6	0	.00

Get Time and Set Time Statistics

The SSTM and ISTM line commands display the IDMS system statistics for get time and set time requests.

Command	Get and set time statistics
SSTM	Current values and rates
ISTM	Interval values and rates

[Figure 162](#) depicts the line commands that display the IDMS system statistics for get time and set time requests.

Figure 162 • SSTM and ISTM line commands

IDMS	IDMSDC1	V1	IDMS INTERFACE ACTIVE	TASKS: 18	2.85/SEC
ISTX	STATISTICS INTERVAL =	8:30:01.7	8:40:00.0	75%	
SSTM	GET/SET TIME STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL GET TIME REQUESTS	313360	313096	264	15.68
+	TOTAL SET TIME REQUESTS	2869	2869	0	.00
+	TOTAL SET TIME WAIT REQUESTS	404	404	0	.00
+	TOTAL SET TIME POST REQUESTS	847	847	0	.00
+	TOTAL SET TIME START TASK REQUESTS	0	0	0	.00
+	TOTAL SET TIME CANCEL REQUESTS	1617	1617	0	.00
ISTM	GET/SET TIME STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL GET TIME REQUESTS	313360	305793	7567	16.70
+	TOTAL SET TIME REQUESTS	2869	2803	66	.14
+	TOTAL SET TIME WAIT REQUESTS	404	362	42	.09
+	TOTAL SET TIME POST REQUESTS	847	839	8	.01
+	TOTAL SET TIME START TASK REQUESTS	0	0	0	.00
+	TOTAL SET TIME CANCEL REQUESTS	1617	1601	16	.03

Scratch and Queue Statistics

The SSSQ and ISSQ line commands display the IDMS system statistics for the Scratch and Queue areas. The statistics for the areas are maintained separately.

Command	Scratch and Queue statistics
SSSQ	Current values and rates
ISSQ	Interval values and rates

[Figure 163](#) depicts the line commands that display the IDMS system statistics for the Scratch and Queue areas.

Figure 163 • SSSQ and ISSQ line commands

IDMS	IDMSDC1	V1	IDMS INTERFACE	ACTIVE	TASKS: 18	2.85/SEC
ISTX	STATISTICS	INTERVAL =	8:30:01.7	8:40:00.0	75%	
SSSQ	SCRATCH & QUEUE STATISTICS		CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL QUEUE GET REQUESTS		3949	3949	0	.00
+	TOTAL QUEUE PUT REQUESTS		949	949	0	.00
+	TOTAL QUEUE DELETE REQUESTS		712	712	0	.00
+	TOTAL QUEUE-AUTOSTART TASKS		0	0	0	.00
+	TOTAL SCRATCH GET REQUESTS		23643	23642	1	.05
+	TOTAL SCRATCH PUT REQUESTS		20447	20445	2	.11
+	TOTAL SCRATCH DELETE REQUESTS		14894	14892	2	.11
ISSQ	SCRATCH & QUEUE STATISTICS		CURRENT	PREVIOUS	DELTA	RATE
+	TOTAL QUEUE GET REQUESTS		3949	3701	248	.54
+	TOTAL QUEUE PUT REQUESTS		949	907	42	.09
+	TOTAL QUEUE DELETE REQUESTS		712	697	15	.03
+	TOTAL QUEUE-AUTOSTART TASKS		0	0	0	.00
+	TOTAL SCRATCH GET REQUESTS		23643	21619	2024	4.46
+	TOTAL SCRATCH PUT REQUESTS		20447	19017	1430	3.15
+	TOTAL SCRATCH DELETE REQUESTS		14894	14117	777	1.71

SQL Statistics

The SSQL and ISQL line commands display the IDMS system statistics for SQL related activity. These line commands are available for IDMS 12.0 and up.

Command	SQL statistics
SSQL	Current values and rates
ISQL	Interval values and rates

Figure 164 depicts the line commands that display the IDMS system statistics for SQL related activity.

Figure 164 • SSQL and ISQL line commands

IDMS	IDMSDC12	V120	IDMS INTERFACE	ACTIVE	TASKS: 18	2.85/SEC
ISTX	STATISTICS	INTERVAL =	8:30:01.7	8:40:00.0	75%	
SSQL	SQL STATISTICS		CURRENT	PREVIOUS	DELTA	RATE
+	SQL COMMANDS EXECUTED		2.48230M	2.48154M	756	44.95
+	ROWS FETCHED		4.62346M	4.62353M	821	48.81
+	ROWS INSERTED		4415	4413	2	.12
+	ROWS UPDATED		43527	43523	4	.23
+	ROWS DELETED		537	537	0	.00
+	SORTS PERFORMED		12392	12391	1	.06
+	ROWS SORTED		297408	297384	24	1.42
+	AM RECOMPILES		1138	1138	0	.00
ISQL	SQL STATISTICS		CURRENT	PREVIOUS	DELTA	RATE
+	SQL COMMANDS EXECUTED		2.48230M	2.47148M	10822	23.89
+	ROWS FETCHED		4.62346M	4.61336M	10992	24.26
+	ROWS INSERTED		4415	4402	13	.03
+	ROWS UPDATED		43527	43457	70	.15
+	ROWS DELETED		537	536	1	.00
+	SORTS PERFORMED		12392	12373	19	.04
+	ROWS SORTED		297408	296952	456	1.00
+	AM RECOMPILES		1138	1134	4	.01

Deadlock Detection Statistics

The SSDD and ISDD line commands display the IDMS system statistics for deadlock detection. These line commands are available for IDMS 12.0 and up.

Command	Deadlock detection statistics
SSDD	Current values and rates
ISDD	Interval values and rates

[Figure 165](#) depicts the line commands that display the IDMS system statistics for deadlock detection.

Figure 165 • SSDD and ISDD line commands

IDMS	IDMSDC12	V120	IDMS INTERFACE ACTIVE	TASKS: 18	2.85/SEC
ISTX	STATISTICS INTERVAL =	8:30:01.7	8:40:00.0	75%	
SSDD	DEADLOCK DETECTION STATS	CURRENT	PREVIOUS	DELTA	RATE
+	DEADLOCK DISPATCH COUNT	237	235	2	.12
+	PASS 1 DISPATCH COUNT	237	235	2	.12
+	PASS 2 DISPATCH COUNT	237	235	2	.12
+	PASS 1 TASKS PROCESSED	942	934	8	.48
+	PASS 2 TASKS PROCESSED	0	0	0	.00
+	DEADLOCKS WITH COND=DEAD	0	0	0	.00
+	DEADLOCKS WITH COND=NONE	0	0	0	.00
+	DEADLOCK VICTIMS	0	0	0	.00
+	COND=DEAD VICTIMS	0	0	0	.00
+	COND=NONE VICTIMS	0	0	0	.00
+	MAX COND=DEAD TASKS	0	0	0	.00
+	MAX COND=NONE TASKS	0	0	0	.00
ISDD	DEADLOCK DETECTION STATS	CURRENT	PREVIOUS	DELTA	RATE
+	DEADLOCK DISPATCH COUNT	237	25	212	.14
+	PASS 1 DISPATCH COUNT	237	25	212	.14
+	PASS 2 DISPATCH COUNT	237	25	212	.14
+	PASS 1 TASKS PROCESSED	942	94	848	.58
+	PASS 2 TASKS PROCESSED	0	0	0	.00
+	DEADLOCKS WITH COND=DEAD	0	0	0	.00
+	DEADLOCKS WITH COND=NONE	0	0	0	.00

Indexed Records Statistics

The SSIX and ISIX line commands display the IDMS system statistics for indexed records. These line commands are available for IDMS 12.0 and up.

Command	Indexed records statistics
SSIX	Current values and rates
ISIX	Interval values and rates

[Figure 166](#) depicts the line commands that display the IDMS system statistics for indexed records.

Figure 166 • SSIX and ISIX line commands

IDMS	IDMSDC12	V120	IDMS INTERFACE	ACTIVE	TASKS: 18	2.85/SEC
ISTX	STATISTICS	INTERVAL =	8:30:01.7	8:40:00.0	75%	
SSIX	INDEXED RECORDS	STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	SR8 INDEX SPLITS		847	847	0	.00
+	SR8 INDEX SPAWNS		404	404	0	.00
+	SR8 RECORDS STORED		31336	31309	27	1.60
+	SR8 RECORDS ERASED		2869	2869	0	.00
+	SR7 RECORDS STORED		130	127	3	.18
+	SR7 RECORDS ERASED		60	60	0	.00
+	INDEX (B-TREE) SEARCHES		148940	148891	49	2.91
+	INDEX (B-TREE) LEVELS SEARCHED		536184	536007	177	10.52
+	ORPHAN RECORDS ADOPTED		14	14	0	.00
+	LEVELS SEARCHED, BEST CASE		3	3		
+	LEVELS SEARCHED, WORST CASE		6	6		
ISIX	INDEXED RECORDS	STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	SR8 INDEX SPLITS		847	839	8	.02
+	SR8 INDEX SPAWNS		404	399	5	.01
+	SR8 RECORDS STORED		31336	30579	757	1.67
+	SR8 RECORDS ERASED		2869	2803	66	.14
+	SR7 RECORDS STORED		130	123	7	.02
+	SR7 RECORDS ERASED		60	58	2	.00
+	INDEX (B-TREE) SEARCHES		148940	147698	1241	2.74
+	INDEX (B-TREE) LEVELS SEARCHED		536184	531727	4457	9.84

Resource Control Statistics

The CSRC line command ([Figure 167](#)) displays the current usage of the Resource Control Area. Statistics are displayed for Resource Link Elements (RLE), Resource Control Elements (RCE), and Deadlock Prevention Elements (DPE).

Figure 167 • CSRC line command

```
IDMS (jobname)  V1    IDMS INTERFACE ACTIVE    TASKS:  11  1.73/SEC
CSRC RLE USED - PCT    RCE USED - PCT    DPE USED - PCT    ECB USED - PCT
+           507 25.51%         400 32.33%         125 17.09%         31 31.00%
```

Scratch Work Area Statistics

[Figure 168](#) shows how line command SSSW is used to display Scratch Work Area Statistics.

Figure 168 • SSSW line command

IDMS (jobname)	V1	IDMS INTERFACE ACTIVE	TASKS: 22	3.29/SEC
SSSW SCRATCH WORK AREA STATISTICS				
+ PAGES WRITTEN		CURRENT 9736	PREVIOUS 9652	DELTA 84 RATE 1.47
+ PAGES READ		15702	15547	155 2.72
+ PAGES FOUND, REUSED		59926	59652	274 4.81
+ NEW PAGES ALLOCATED		15641	15564	77 1.35
+ PAGES ALLOCATED HWM		713	713	
CSSW I/O RATE PCT USED HWM PCT				
+	4.20	14.36	23.76	

Lock Control Statistics

The CSLK line command displays a summary of the number of locks held by active run units, or by logical terminals waiting for user input.

For IDMS 10.2, the CSLK display shows the number of locks held by lock class for run units and logical terminals.

For IDMS 12.0, the CSLK display shows the total number of locks for run units and L-terms, and the number of Lock Manager session control blocks for run units and L-terms. The number of session control blocks corresponds to the number of run units and L-terms holding locks.

As shown in [Figure 169](#), the LSUM line command displays the detail for the Lock Manager session control blocks. For each session, the source of the session (active task or L-term) is displayed along with the number of locks currently being held. The active task sessions display first, showing the active task ID and run unit program name. Next, the L-term sessions display, showing the L-term names.

Figure 169 • LSUM line command

```
.      IDMS 10.2 Lock Control Statistics
IDMS IDMS102      V1      IDMS INTERFACE ACTIVE      TASKS:  11      1.73/SEC
CSLK TYPE      EXCL/PROT      SHARE      NOTIFY      TOTAL      MAXIMUM
+   RUN-UNIT      32      73      0      105      1500
+   L-TERMS      0      0      318      318
+   TOTAL      32      73      318      423

.      IDMS 12.0 Lock Control Statistics
IDMS IDMS120      V120      IDMS INTERFACE ACTIVE      TASKS:  18      1.29/SEC
CSLK      RUN UNIT      L-TERM      TOTAL
+   LOCKS      21      175      196
+   SESSIONS      15      27      42

.      Lock Session Table
LSUM TASK/LTERM      LOCKS
+   TASK:      2 RHDCRUAL      1
+   TASK:      3 RHDCRUAL      1
... several lines omitted ...
+   TASK:  20336 GNMSU230      7
+   TASK:  20367 GANDI140      0
... several lines omitted ...
+   LTERM:VTMLT001      21
+   LTERM:VTMLT003      12
```

Log Statistics

PreAlert dynamically allocates and reads the log files to obtain current data for displaying statistics. The log file is read to locate the first not-saved page in the log file. [Figure 170](#) depicts this feature.

Figure 170 • Log statistics

```

IDMS (jobname) V1 IDMS INTERFACE ACTIVE   TASKS:  11  1.73/SEC
CSLG      READS   WRITES    WAITS   PCT-USED
+         101      68        0    8.85%

```

Command

Display

CSLG

IDMS Log Driver Statistics

IDMS MVS Usage Statistics

The CSMV and ISMV line commands display the current and interval MVS usage statistics for an IDMS CV. The display includes the CPU rate, I/O rate and local page-in rate for the CV.

PreAlert calculates the CPU rate as the CPU usage based on a single processor, not the entire system. Therefore, it is possible to exceed 100 percent on IDMS CVs utilizing multi-processor capabilities.

Command	Display
CSMV	Current CPU, Input and Output, and paging rates
ISMV	Interval CPU, Input and Output, and paging rates

[Figure 171](#) depicts the line commands that display the current and interval MVS usage statistics for an IDMS CV.

Figure 171 • CSMV and ISMV line commands

```

IDMS IDMSDC1          V1      IDMS INTERFACE ACTIVE  TASKS:  18   2.85/SEC
ISTX STATISTICS INTERVAL =      8:30:01.7   8:40:00.0   75%

CSMV CPU-RATE I/O RATE PIN-RATE
+      36.12%   48.24   .00

ISMV CPU-RATE I/O RATE PIN-RATE, INTERVAL STATISTICS
+      21.84%   30.30   .00

```

Multi Tasking Environment

PreAlert displays information about the MVS multi tasking system environment for the number of tasks that have executed for each MPMODE and individual statistics for each of the subtasks. [Figure 172](#) depicts this PreAlert function.

Figure 172 • Multi tasking environment

IDMS (jobname)	V1	IDMS INTERFACE	ACTIVE	TASKS:	11	1.73/SEC
CSMP NAME		REQUEST COUNT		WAIT COUNT		
+ ANY		3,456		00		
+ DC		21,654		49		
+ DB		9,210		12		
+ USER		1,619		02		
+ LOADER		213		05		
+ CALLER		5,760		09		
CSST NAME	STATUS	DISPATCH	WAKEUP	USER-CPU	SYS-CPU	TASK ID
+ MAINTASK	IDLE	8520	7116	.00S	14.85S	
+ SUBT0001	BUSY	19,340	8698	45,196S	94,195S	9271

Command	Display
CSMP	Multi Tasking MPMODE Table
CSST	Multi Tasking subtasks

Journal Buffer Statistics

The SSJB, ISJB, and CSJB line commands display the journal buffer statistics, as shown in [Figure 173 on page 314](#). The SSJB and ISJB line commands display current and interval journal buffer statistics.

The CSJB line command displays the total number of waits on a journal buffer, journal pages written rate, and histogram indicating the percentage full of pages written to the journals. When one or more journal buffer waits has occurred since the previous cycle, a plus sign (+) displays following the wait count.

Command	Journal Buffer statistics
SSJB	Current values and rates
ISJB	Interval values and rates
CSJB	Current values

Figure 173 shows a sample display of the SSJB, ISJB, and CSJB line commands.

Figure 173 • SSJB, ISJB, and CSJB line commands

IDMS IDMSDC12	V120	IDMS INTERFACE ACTIVE	TASKS: 18	2.85/SEC	
ISTX STATISTICS INTERVAL =	8:30:01.7	8:40:00.0	75%		
SSJB	JOURNAL BUFFER STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	WAITS FOR JOURNAL BUFFER	0	0	0	.00
+	JOURNAL PAGES WRITTEN	359092	359049	43	2.56
+	PAGES WRITTEN, 1-10% FULL	20394	20391	3	.18
+	PAGES WRITTEN, 11-20% FULL	36692	36688	4	.24
+	PAGES WRITTEN, 21-30% FULL	71627	71618	9	.54
+	PAGES WRITTEN, 31-40% FULL	33854	33841	4	.24
+	PAGES WRITTEN, 41-50% FULL	9826	9825	1	.06
+	PAGES WRITTEN, 51-60% FULL	24894	24891	3	.18
+	PAGES WRITTEN, 61-70% FULL	75375	75366	9	.54
+	PAGES WRITTEN, 71-80% FULL	48049	48043	6	.36
+	PAGES WRITTEN, 81-90% FULL	6690	6690	0	.00
+	PAGES WRITTEN, 91-100% FULL	31700	31696	4	.24
ISJB	JOURNAL BUFFER STATISTICS	CURRENT	PREVIOUS	DELTA	RATE
+	WAITS FOR JOURNAL BUFFER	0	0	0	.00
+	JOURNAL PAGES WRITTEN	359092	358516	576	1.27
+	PAGES WRITTEN, 1-10% FULL	20394	20361	33	.07
+	PAGES WRITTEN, 11-20% FULL	36692	36633	59	.13
+	PAGES WRITTEN, 21-30% FULL	71627	71512	115	.25
+	PAGES WRITTEN, 31-40% FULL	33854	33791	54	.12
+	PAGES WRITTEN, 41-50% FULL	9826	9811	15	.03
+	PAGES WRITTEN, 51-60% FULL	24894	24854	40	.09
+	PAGES WRITTEN, 61-70% FULL	75375	75254	121	.27
+	PAGES WRITTEN, 71-80% FULL	48049	47971	78	.17
+	PAGES WRITTEN, 81-90% FULL	6690	6680	10	.02
+	PAGES WRITTEN, 91-100% FULL	31700	31649	51	.11
CSJB	JOURNAL WAITS	PAGES WRITTEN	1-10--20--30--40--50--60--70--80--90-100%		
+	0	2.56	6 10 20 9 3 7 21 13 2 9		

Histograms

A histogram is simply a means of recording the number of requests for a resource by ranges of the resource size. For example, [Figure 174](#) shows how the line command, HSPL, displays the number of called programs loaded by the different ranges of program size.

Figure 174 • HSPL line command

```

IDMS (jobname) V1 IDMS INTERFACE ACTIVE TASKS: 11 1.73/SEC
HSPL SIZE OF CALLED PROGRAMS
+ 0- 249= 46 | 250- 499= 62 | 500- 749= 171 |
+ 750- 999= 5935 | 1000- 1249= 6158 | 1250- 1499= 4912 |
+ 1500- 1749= 1805 | 1750- 1999= 708 | 2000- 2249= 2782 |
+ 2250- 2499= 183 | 2500- 2749= 1450 | 2750 = 116733 |

```

These line commands are used to specify histogram resources for display:

Command	Display
HSJR	Size of user records written to journals
HSPL	Size of called programs
HSQU	Size of queue records written
HSSR	Size of scratch records written
HSTS	Size of storage requests (all types)
HSUS	Size of storage requests (user only)

IDMS Statistics Interval

PreAlert maintains interval statistics for every IDMS CV being monitored. Interval statistics provide a long term look at resource usage over the duration of the interval. Interval statistics are available for IDMS system statistics, database area statistics, and buffer statistics. Also, some of the interval statistics may be monitored through PreAlert Exception Analysis.

PreAlert maintains these statistics for the duration of each interval. At the end of an interval, PreAlert begins a new statistics interval; PreAlert does not carry statistics across intervals. Whenever interval statistics are referenced before the interval has ended, they indicate the resource usage since the beginning of the interval only.

The user may select a statistics interval of 1 to 60 minutes. Optionally, the interval may be synchronized on the hour. With a synchronized 15-minute interval, a new interval is scheduled on the hour, at 15, 30, and 45 minutes past the hour. The actual statistics interval may not occur exactly with the specified duration and synchronize options, but, rather, the interval is dependent upon the PreAlert Auto-update interval. PreAlert establishes the interval with the first PreAlert update after the scheduled time.

Optionally, PreAlert will log interval statistics through the MLOG Statistics Logging Facility. The recorded statistics will include interval system statistics, and interval statistics for all buffers and database areas.

Defaults for the statistics interval, synchronize option, and interval statistics logging are specified in the userdata UDPARMS macro, described in the *ASG-PreAlert IDMS/MVS System Guide*. These defaults may be overridden using the ILOG line command. See ["IDMS Statistics Logging" on page 327](#).

Statistics Interval Status

The ISTX line command displays the status of the current statistics interval. The line command shows the beginning and ending times of the current statistics interval and the percentage of the interval that has expired. If the percentage follows an asterisk (*), the current interval has ended and PreAlert is establishing a new interval. [Figure 175](#) depicts these line commands.

Figure 175 • ILOG and ISTX line command

```
COMMAND:_____ BLANK      8:37:34.7  92.254  91.06% .TUT FOR TUTORIAL
IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  18   2.85/SEC
ILOG
+      SYSTEM STATS INTERVAL =  10M SYNCHRONIZED
ISTX STATISTICS INTERVAL =      8:30:01.7   8:40:00.0   75%
```

The ILOG line command indicates that the statistics interval has been set to 10 minutes and that it is synchronized on the hour. The ISTX line command shows that the current statistics interval began at 8:30:01 and is scheduled to end at 8:40:00, and that 75 percent of the interval has expired as of 8:37:34.

Logical Terminal Usage

The line commands described in this section display statistics related to logical terminal (L-term) usage.

Logical Terminal Usage Summary

The LTRM line command displays a summary of logical terminal usage. This includes the number of logical terminals defined; the number of terminals currently in use (a user is signed on); and the number of terminals that have been used (a user is signed on or the logical terminal has been initialized).

The used count indicates the *high water mark* for L-term usage. When this number approaches the L-term count, additional L-terms should be added to the CV. [Figure 176](#) depicts this line command.

Figure 176 • LTRM line command

```
IDMS (jobname)  V1  IDMS INTERFACE ACTIVE  TASKS:  17  2.41/SEC
LTRM LTERM COUNT =  90  USERS =  14  USED =  43
```

Logical Terminal Usage Summary by Physical Line (PLE) ID

The PLES line command ([Figure 177 on page 319](#)) displays a summary of logical terminal usage for each physical line (PLE). This includes the number of logical terminals defined; the number of terminals currently in use (a user is signed on); and the number of terminals that have been used (a user is signed on or the logical terminal has been initialized).

The used count indicates the *high water mark* for L-term usage. When this approaches the L-term count, more L-terms should be added to the line.

Figure 177 • PLES line command

```

IDMS (JOBNAME)  V1  IDMS INTERFACE ACTIVE  TASKS: 19  3.12/SEC
PLES  CONSOLE  LTERM COUNT =    1  USERS =    0  USED =    0
+    UCFLINE  LTERM COUNT =    4  USERS =    0  USED =    1
+    VTAM     LTERM COUNT =   170  USERS =   109  USED =   123
+    S3270Q1  LTERM COUNT =    1  USERS =    0  USED =    1
+    VTAMTARS LTERM COUNT =   29  USERS =    6  USED =    6
+    JESRDR   LTERM COUNT =    1  USERS =    0  USED =    1
+    *TOTAL*  LTERM COUNT =   206  USERS =   115  USED =   132

```

Resources Held by a Task or L-term

The RCES line command ([Figure 178](#)) is used to display the resources held by either an active task or by a L-term. PreAlert scans the RLE chains associated with either the task or the L-term to locate the held RCEs. The RCEs represent the resources in IDMS.

To display the resources held by an active task, use the TCE= keyword to specify the task ID of the active task. For logical terminals, use either the LTE= or PTE= keywords to specify the terminal.

Figure 178 • RCES line command

```
IDMS (jobname)  V1  IDMS INTERFACE ACTIVE  TASKS:  13  1.87/SEC
RCES LTE=TAFZZ001
+ SIGNON ELEMENT  SON:0062D6C8 SALYES  LTE:0013AB88 TAFZZ001
+ STORAGE KEPT USER/LONG LEN=704 ADDR=00634080 STG ID='OOTB'
+ STORAGE KEPT USER/LONG LEN=320 ADDR=00632D80 STG ID='ACF$'
+ STORAGE KEPT SYSTCE/LONG LEN=256 ADDR=0062D840 STG ID='      '
+ STORAGE KEPT SYSTCE/LONG LEN=4288 ADDR=0062A080 STG ID='      '
+ STORAGE KEPT DATABASE/LONG LEN=448 ADDR=0063E3C0 STG ID='      '
+ SCRATCH ELEMENT ADSORBBS SIA:0062D848
+ RELOCATABLE STORAGE  0062A088  TYPE1 RCE:001BE59C
+ RELOCATABLE STORAGE  00632D88  TYPE1 RCE:001C1794
. . . . .
```

RCE Types - Message Formats

RCE type 1 - Storage Element

```
STORAGE [KEPT] type/[LONG|SHORT] LEN=length [RELO ID=relo.ID |
ADDR=address] STG ID='SID '
```

Field	Description
<i>type</i>	USER | SHARED | SYSTCE | TERMINAL | DATABASE
<i>length</i>	Length of storage
<i>relo.ID</i>	ID of relocated storage (hex)
<i>address</i>	Beginning address of storage (hex)
<i>SID</i>	Storage ID as specified in GETSTG

RCE type 2 - Program Element

PROGRAM ELEMENT *prog.ID* LEN=*length* PDT=*pdt.addr*

Field	Description
<i>prog.ID</i>	Program ID (name)
<i>length</i>	Program length
<i>pdt.addr</i>	Address of the PDT for the program

RCE type 3 - File Control

FILE CONTROL *rce.word1* *rce.word2* *rce.word3* *rce.word4*

Field	Description
<i>rce.word1</i>	RCE first variable word (hex)
<i>rce.word2</i>	RCE second variable word (hex)
<i>rce.word3</i>	RCE third variable word (hex)
<i>rce.word4</i>	RCE fourth variable word (hex)

RCE type 4 - Scratch Element

SCRATCH ELEMENT *scr.ID* SIA:*sia.addr*

Field	Description
<i>scr.ID</i>	Scratch index area ID
<i>sia.addr</i>	Address of scratch index area

RCE type 5 - Internal Run-Unit Allocation

INTERNAL RUN UNIT RUH:*ruh.addr* SUBSCHEMA:*ssc.addr*

Field	Description
<i>ruh.addr</i>	Address run unit header
<i>ssc.addr</i>	Address subschema control area

RCE type 6 - Queue Element

QUEUE ELEMENT QCE:*qce.addr* *queue.ID*

Field	Description
<i>qce.addr</i>	Address queue control element
<i>queue.ID</i>	Queue name

RCE type 7 - Dump Storage

DUMP STORAGE ADDR=*stg.addr* LEN=*stg.length*

Field	Description
<i>stg.addr</i>	Address of storage to be dumped
<i>stg.length</i>	Length of storage to be dumped

RCE type 8 - Message Queue Element

MESSAGE QUEUE LEN=*msg.len* DB KEY=*db.key*

Field	Description
<i>msg.len</i>	Length of message element
<i>db.key</i>	Dictionary database key of message

RCE type 9 - Signon Element

SIGNON ELEMENT SON:*son.addr* *userid* LTE:*lte.addr* *l.term*

Field	Description
<i>son.addr</i>	Address signon element
<i>userID</i>	User ID
<i>lte.addr</i>	Address of logical terminal element
<i>l.term</i>	Logical Terminal ID

RCE type 10 - Enqueue Element

ENQUEUE ELEMENT ECE:*ece.addr*

Field	Description
<i>ece.addr</i>	Address of enqueue element

RCE type 11 - Single-Thread Resource Element

SINGLE THREAD RESOURCE *res.type* TASKS WAITING: *nnn* OWNER
DCE:*dce.addr*

Field	Description
<i>res.type</i>	Resource type [LOADER | LOG FILE | SCRATCH AREA]
<i>nnn</i>	Number of tasks waiting for the resource
<i>dce.addr</i>	Address of 'owner' DCE

RCE type 12 - ECB ID Element

ECBID ELEMENT ECB=*ecb.ID*

Field	Description
<i>ecb.ID</i>	ECB ID (the RCE is acting like an ECB)

RCE type 13 - Message Dictionary Queue Element

MESSAGE DICTIONARY QUEUE MDQ:*mdq.addr* RLE:*rle.addr*

Field	Description
<i>mdq.addr</i>	Address of Message Dictionary Queue Element
<i>rle.addr</i>	RLE anchor address for this RCE

RCE type 14 - IDMS Run Unit

RUN UNIT VIB:*vib.addr* PROGRAM=*prog.ID*

Field	Description
<i>vib.addr</i>	Address VIB for run unit
<i>prog.ID</i>	Run unit program name

RCE type 15 - Interval Control Element

INTERVAL CONTROL ELEMENT ICE:*ice.addr*

Field	Description
<i>ice.addr</i>	Address of Interval Control Element

RCE type 16 - COBOL BLL List

COBOL BLL LIST PGM RCE:*rce.addr* BLL:*bll.addr* TGT:*tgt.addr*

Field	Description
<i>rce.addr</i>	Address program RCE owning BLLs
<i>bll.addr</i>	Address COBOL BLL cells
<i>tgt.addr</i>	Address COBOL TGT data

RCE type 17 - Blast Message Buffer

BLAST MESSAGE LEN=*msg.len* ADDR=*msg.addr* # LTES QUEUED=*nnn*

Field	Description
<i>msg.len</i>	Message length
<i>msg.addr</i>	Message address
<i>nnn</i>	Number of logical terminals of queue

RCE type 18 - DDS Long Term Resources

LONG TERM RESOURCES DDS NODE=*dds.node*

Field	Description
<i>dds.node</i>	DDS target for long term resources

RCE type 19 - Relocatable Storage Element

RELOCATABLE STORAGE *relo.addr* TYPE1 RCE:*rce.addr*

Field	Description
<i>relo.addr</i>	Address of storage
<i>rce.addr</i>	Address of type1 RCE owning the storage

RCE type 20 - OTP IOP Available

OTP IOP AVAILABLE *res.addr*

Field	Description
<i>res.addr</i>	Address of IOP

RCE type 21 - OTP Page Buffer

OTP PAGE BUFFER *res.addr*

Field	Description
<i>res.addr</i>	Address of OTP page buffer

RCE type 22 - OTP Specific Buffer Wait

OTP SPECIFIC BUFFER WAIT *res.addr*

Field	Description
<i>res.addr</i>	Address of OTP page buffer

RCE type 23 - OTP Trespasser FEB

OTP TRESPASSER FEB *res.addr*

Field	Description
<i>res.addr</i>	Address of FEB

Trace Table Display

The TTTC line command is used to list the system trace table entries for a task. This can be very helpful in determining what causes a CV to hang up. The data and addresses displayed may be used with the IDCBC, ADDR, and DUMP line commands to determine the activity of the task.

TTTC normally displays the trace table entries for the current or last task executed. The TCE= keyword may be specified to select a task other than the current or last. Also, the CNT= keyword is used to specify the maximum number of entries to display; the default is 8.

The trace entries display in reverse order. That is, the first entry display is the most current, followed by previous entries. [Figure 179](#) depicts these trace entries.

Figure 179 • TTRC line command

```

IDMS (jobname)   V1   IDMS INTERFACE ACTIVE   TASKS 15   .72/SEC
ATSL TYP=UE
ATID      3197      3207
ATCD ADSG      ADS2
ATPN ADSOGEN1 ADSOAGNM
ATST      EXEC      WAIT
ATEW      DBIO RD
=====
CSST NAME      STATUS  DISPATCH  WAKEUP USER-CPU  SYS-CPU  TASK ID
+   MAINTASK  BUSY      105318   94726    .00S    9:27M    3207
TTRC
+ CURRENT TASK:      3207  TRC WORD   REG 14   REG 15   REG 0    REG 1
+   +002540  LIMTEP1   00044B0A  8E2650EE 00292618 00000000 001B9870
+   +002500  RMGREP1   00041B03  8E2550FA 00254618 00002EBB 001B9334
+   +0024C0  HISTOEP1   00041F16  AE256F3E 0024DE18 000027A0 001A2198
+   +002480  CSASTCKA   0004F001  9E254E26 00254E18 002DDC00 001B97F8
+   +002440  STGPGET    001E0117  9E241568 00254E18 002DDC00 001B97F8
+   +002400  WAITEP5    00070C1B  9E25BDB8 002365F0 001AA960 001B9334
+   +0023C0  RMGREP1    00071B01  8E25910A 00254618 001B92A0 001B9334
+   +002380  WAITEP1    00070C21  8E25BF0C 002365F0 001AA960 001B9334

```

The format of the TTRC entries follows:

```
+   offset   ep.name   trc.word   reg 14   reg 15   reg 0   reg 1
```

Field	Description
<i>offset</i>	Offset in trace table
<i>ep.name</i>	Name of the IDMS service routine
<i>trc word</i>	Trace word from the TCE when the call was made
<i>reg 14</i>	Contents of register 14, usually the return addr
<i>reg 15</i>	Contents of register 15, program entry point addr
<i>reg 0</i>	Contents of register 0, sometimes a PARM list addr
<i>reg 1</i>	Contents of register 1, address of PARM list

14

Supplementary Features

PreAlert's additional IDMS features are covered in these sections:

IDMS Statistics Logging	327
IDMS Vary Line Command	329
Issue IDMS Commands	331

IDMS Statistics Logging

The ILOG line command is used to request continuous statistics logging and to modify the statistics interval. The ILOG line command is needed only to initiate the changes; the requests made by ILOG remain in effect until modified again. As long as PreAlert continues to monitor the IDMS CV, the logging or statistics interval remains in effect.

For more information on Statistics Logging, refer to the section ["Statistics Logging Feature" on page 44](#).

For more information on the statistics interval, refer to the section ["IDMS Statistics Interval" on page 316](#).

Keyword	Function
LOG=xxx	Specifies the types of statistics to be logged.
S	IDMS current system statistics
M	PreAlert exception messages
D	PreAlert display screen images
T	Active task and run unit statistics
E	Active task and run unit statistics for tasks with exceptions only
A	Database area statistics
R	Database area statistics for areas with exceptions only

Keyword	Function
	B Buffer statistics
	F Buffer statistics for buffers with exceptions only
	I Interval statistics for IDMS system statistics, database area statistics, and buffer statistics. Recorded at the end of each statistics interval only.
INT= <i>nnn</i>	Specifies the statistics interval duration in minutes.
SYN= <i>Y|N</i>	Synchronize statistics interval on the hour.

In [Figure 180](#), the ILOG line command requested statistics logging and modified the statistics interval.

Figure 180 • ILOG line command

```
IDMS (jobname)          V1      IDMS INTERFACE ACTIVE   TASKS:  18   2.85/SEC
ILOG LOG=ISEM,INT=10,SYN=Y
+   S-SYSTEM STATS   E-EXCEPTION TASKS   M-EXCEPTION MESSAGES
+   I-INTERVAL STATISTICS
+   SYSTEM STATS INTERVAL =  10M SYNCHRONIZED
```

The LOG=ISEM keyword specifies statistics to be recorded through the PreAlert statistics logging feature. The IDMS system statistics, active task and run unit statistics, and exception messages are logged each time PreAlert monitors the IDMS CV. The interval statistics are logged at the end of each statistics interval only.

The INT=10 and SYN=Y keywords request that the 10 minute statistics interval be synchronized on the hour. The statistics intervals will begin on the hour, and at 10, 20, 30, 40, and 50 minutes past the hour.

IDMS Vary Line Command

The IVRY line command dynamically varies selected elements within the CV. IVRY cancels an active task, changes the priority for an active task or task definition, or enables/disables a task or program definitions.

The CANCEL TASK function sets the bit (either TCERQAB, TCEABIN, or TCERNWY) in the Task Control Element (TCE) for the active task. The value of the CAN= keyword determines which bit is set. These bits are interrogated by the IDMS dispatcher in determining whether or not to abend the task. In most cases the CAN=Y function to set the TCERQAB bit causes a task to be cancelled. Occasionally, the CAN=1 or CAN=2 functions (to set the TCEABIN or TCERNWY bits) may be required to cancel the task. If IDMS is in a tight loop and the dispatcher is not being entered, the task may not be abended.

PreAlert may suppress the abend request when certain bits are set in the TCE. If the abend request, PreAlert displays `ABEND REQUEST SUPPRESSED` with a reason code appended to the message:

ABNDM	The task is currently abending. PreAlert will not request an abend for a task that is already abending.
NABNM	The TCENABN flag has been set for the task. This flag indicates DON'T ALLOW ABEND IF ON.
ARBKM	The task is currently performing rollback processing. PreAlert will not request an abend for a task performing rollback processing.

The TCENABNM check may be suppressed by using the SUP=NABNM keyword.

When the priority of an active task is changed, IDMS does not change its position on the dispatching queue. Any new tasks created are placed in the dispatching queue, either above or below this task, depending on the new dispatching priority. As existing tasks end and new tasks are created, the position on the dispatching queue is adjusted accordingly.

When the priority is changed for a task definition, the actual dispatching priority may be different since the priorities from the user and the logical terminal are included in the dispatching priority. Following are the keywords for this command along with keyword combinations.

Keyword	Function
TID= <i>nnn</i>	Active Task ID
TCD= <i>taskcode</i>	Task code for Task Definition
PGM= <i>program</i>	Program name for Program Definition

Keyword	Function
CAN=Y	Request abend, TCERQAB bit
CAN=1	Request abend, TCEABIN bit
CAN=2	Request abend, TCERNWY bit
SUP=NABNM	Suppress TCENABNM check.
PRI= <i>nnn</i>	Reset Priority
ENA=Y|N	Enable (Y) or Disable (N)

Valid Keyword Combinations:

Keyword	Function
TID= <i>nnnn</i> ,CAN= <i>x</i>	Cancel an active task
TID= <i>nnnn</i> ,CAN= <i>x</i> ,SUP=NABNM	Cancel an active task, suppress TCENABNM check
TID= <i>nnn</i> , PRI= <i>nnn</i>	Reset active task dispatching priority
TCD= <i>taskcode</i> , PRI= <i>nnn</i>	Reset task definition priority
TCD= <i>taskcode</i> , ENA=Y|N	Enable or disable a task definition
PGM= <i>program</i> , ENA=Y|N	Enable or disable a program definition

[Figure 181](#) depicts the valid keyword combinations.

Figure 181 • IVRY line command

IDMS (jobname)	V1	IDMS INTERFACE ACTIVE	TASKS: 21	1.41/SEC
ATSL	TYP=UE			
ATID	723	4163	4177	4178 4179
ATCD	OPER	T023B	T011A	T009A T018B
=====				
IVRY	TID=4163,CAN=Y			
+	TASK ID 4163 ABEND REQUESTED			

Issue IDMS Commands

The ICMD line command sends an IDMS command to the CV via the operator console. PreAlert scans the outstanding operator reply elements searching for the CV's jobname. When found, PreAlert prefixes the command with the operator reply ID and issues the command to the MVS operator console.

LINE COMMAND (entered by the user)

```
ICMD 99SIGNON userid password
```

MVS COMMAND (generated by PreAlert)

```
R xx,99SIGNON userid password
```

The MVS command (where *xx* is the current reply ID for the CV) is sent to the MVS console. MVS then routes the command to the IDMS CV based on the reply ID.

15

Exception Analysis

IDMS Exception Analysis provides a means of automatically locating potential problems within your IDMS CV(s). IDMS Exception Analysis gathers information about exceptions and displays the exception messages following the IDMS line command. IDMS CV internals and active tasks are examined for exceptions based on user specified thresholds. These thresholds may be specified interactively during the PreAlert session or may be pre-defined in the IDMS Exception Level Sets.

In addition to displaying an exception message, the exception definition may be coded to automatically print the current screen, request IDMS statistics logging, invoke the Screen Chaining facility, or issue commands to the CV. These options allow you to record additional information about the exception for later review. These topics are discussed:

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Running Exception Analysis

To provide continuous exception analysis, PreAlert must be placed in Auto-update mode by entering `.INTnn` and pressing Enter. This enables PreAlert to continue to monitor and control all IDMS CV environments in an unattended manner.

Freeze Frame:

- All the areas monitored by IDMS Exception Analysis are included in Freeze Frame.
- Any of the exception thresholds and options may be modified while Freeze Frame is active.

IXAS - Activate IDMS Exception Analysis

The IXAS line command is used to specify the IDMS Exception Level Set name. Exception Analysis is performed only if an Exception Level Set has been loaded. A default Exception Level Set may be associated with the IDMS CV via the userdata UDIDXL macro. PreAlert automatically loads the default Level Set the first time PreAlert monitors the CV. For details on the UDIDXL macro, refer to the "Userdata Macros" chapter in the *ASG-PreAlert IDMS/MVS System Guide*.

If a default has not been defined, a level set must be loaded through the IXAS line command.

Only one Exception Level (LVL=) can be active for a CV at a time. However, multiple IDMS CVs can be monitored for Exception Analysis at the same time, each with its own level set independently maintained.

Keyword	Function
LVL=xx	Specify exception level set
RLD=xx	Reload current level set
SYS=ON|OFF	Activate/Terminate IDMS System Analysis
TSK=ON|OFF	Activate/Terminate IDMS Task Analysis
DBX=ON|OFF	Activate/Terminate IDMS Database Analysis
BFR=ON|OFF	Activate/Terminate IDMS Buffer Analysis
FCX=ON|OFF	Activate/Terminate IDMS File Analysis
LOG=xxx	Specify Exception Logging Options
MSG=N|Y|S|D	Specify Message Display options
	N Never display IDMS exception messages
	Y Always display IDMS exception messages
	S Display IDMS messages during screen chaining only
	D Display IDMS messages during normal processing only (not during screen chaining displays)
MIN=nnn	Specify the minimum priority for exception messages, default=1
MAX=nnn	Specify the maximum priority for exception messages, default=255

In [Figure 182](#), the SYS=ON keyword is entered with the IXAS line command to activate IDMS System Exception Analysis. This changes the status to pending (PEND), implying that IDMS System Exception Analysis will be active with the next cycle of PreAlert.

Figure 182 • IXAS line command

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  22   3.29/SEC
IXAS SYS=ON,TSK=ON,LOG=DS
+   LVL=99          SYS=PEND TSK=PEND  LOG=DS    MSG=Y ALWAYS DISPLAY
+                   DBX=OFF  BFR=OFF   MIN=    0  MAX=  255
+                   FCX=OFF

```

All control changes to IDMS Exception Analysis are delayed through one cycle of PreAlert. This occurs when PreAlert performs data collection and analysis first, then processes the line commands. Exception Analysis occurs in the data collection phase, but the line commands used to control Exception Analysis are processed later.

IXAL - List IDMS Exception Definitions

The IXAL line command provides a summary of the active exception definitions. Each active exception definition and its thresholds are displayed.

The first line displayed indicates the status of each exception analysis area: system, active task, database, buffer analysis, and the number of exception definitions available for each. The active exception definitions are displayed next. Only the exception number and its thresholds are displayed. To display the entire exception definition, use the IXDS, IXDT, IXDD, IXDB, or IXDF line commands. [Figure 183](#) depicts the exception definition.

Figure 183 • IXAL line command

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  21   3.01/SEC
IXAS
+   LVL=99           SYS=ON   TSK=ON   LOG=         MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=         0 MAX=  255
+                   FCX=ON
IXAL LVL=99 SYS=ON  CNT=20  TSK=ON  CNT=20  DBX=ON  CNT=10  BFR=ON  CNT=10
+                   FCX=ON  CNT=10
+ SYS: EXA=1  SET=ON  LOG>90
+ TSK: GBL=1  TCD=GLOBAL-S  TYP=SYS  SET=OFF
+       GBL=2  TCD=GLOBAL-E  TYP=EXT  SET=OFF
+       GBL=3  TCD=GLOBAL-U  TYP=USR  SET=OFF
+       EXA=1  TCD=AP05*      TYP=USR  SET=ON  STG>50  TTM>10
+ DBX: EXA=1  DNM=DDL*  SET=OFF
+       EXA=2  DNM=*      SET=ON  IOR>40  RRR>200
+       EXA=3  DNM=SQLDEMO EMPLDEMO  SET=ON  IOR>10
+ BFR: EXA=1  BNM=DDL*  SET=OFF
+       EXA=2  BNM=*      SET=ON  IBU<20
+ FCX: EXA=1  FNM=SQL*    SET=ON  BUT<20

```

IDMS - Display IDMS Exception Messages

All IDMS exception messages display following the IDMS line command, as shown in [Figure 184](#).

Figure 184 • IDMS exception messages

```

IDMS (jobname) V1 IDMS INTERFACE ACTIVE
+ *** LOG AREA 93% FULL (S1) ***
+ *** STORAGE POOL 1 84% FULL (S3) ***
+ *** TASK 3180 GBLDI001 TRANSACTION TIME = 23.82S (T1) ***
+ *** STORAGE SIZE = 1268K (G3) ***
ATSL
ATID 0 1 4 5 1827 3180 3188
ATCD *SYSTEM* *SYSTEM* *DRIVER* *DRIVER* OPER ADS2 ADS2
ADLG GBLDI001 GTEDU020
ATSO 215296 541184 37376 157120 668224 1298432 19520
ATTT 13:07H 13:07H 13:07H 13:07H 35:48M 23.82S 1.31S
ATLK 0/ 9 0/ 0 0/ 0 0/ 0 2/332 1/ 86
ATDB 187 0 0 6 0 250 95
=====
CSTK TASKS MAX-TASK ABEND-CT RUN-AWAY SOS-CT LOG-USED
+ 3188 0 2 0 0 93.61%

```

Two exceptions were found for the IDMS CV system:

- The DDLDCLOG area was 93% full
- Storage pool number 1 was 84% full

Also, two exceptions were found for task 3180 (ADS/O dialog GBLDI001).

- Transaction time was 23.82 seconds
- Storage allocation of 1268K bytes

The codes that follow the exception message (in parentheses) indicate the exception definition for which an exception was detected. These codes are in the following format:

- The first character is always one of these letters:
 - S For System Exception definitions
 - G For Global Task Exception definitions
 - T For Task Exception definitions
 - D For Database Exception definitions
- The number indicates the exception definition number

IDMS System Exception Analysis

PreAlert's IDMS System Exception analysis monitors the IDMS CV internals for exceptions based on the overall usage or status of IDMS resources. A complete list of the monitored resources is presented in ["IDMS System Exception Thresholds" on page 348](#).

The analysis of each exception condition, CPU rate, RCE usage, journals full, etc., is controlled through a threshold keyword in a System Exception Definition. Each exception definition may contain one or more exception threshold keywords, allowing for AND logic and exceptions based on a range of values.

Additionally, any threshold keyword may be used in multiple exception definitions. Each exception definition may specify a range of values using greater than and less than thresholds. This allows the user to implement different actions when the usage of a particular resource falls within the different ranges.

A number of spare system exception definitions should be included when the Exception Level Set is initially built (through the IDXINIT macro). The System Exception Definitions may be predefined with the IDXSYS macro, or may be dynamically modified using the IXVS line command. The IDXINIT and IDXSYS macros are described in the ["IDMS Exception Analysis Batch Definition Facility" on page 476](#). The IXVS line command is described in ["IXVS - Vary IDMS System Exception Definitions" on page 344](#).

IXDS - Display IDMS System Exception Definitions

The IXDS line command displays IDMS System Exception Definitions. The display defaults to all non-spare System Exception Definitions. Keywords may be used to select specific System Exception Definitions, or either all active or all inactive System Exception Definitions.

Keyword	Function
EXA= <i>nnn</i>	Display specified exception definitions.
SET=ON	Display all active system definitions.
SET=OFF	Display all inactive system definitions.

[Figure 185](#) depicts the IXDS line command that displays the IDMS System Exception Definitions.

Figure 185 • IXDS line command

```

IDMS (jobname)  V1    IDMS INTERFACE ACTIVE
IXDS SET=ON
+   EXA=1   SET=ON  PRI=1   SND=Y   STG>20
+   EXA=2   SET=ON  PRI=1   SND=Y   LOG>30
+   EXA=3   SET=ON  PRI=6   PRG>75
+   EXA=4   SET=ON  PRI=10  RUL>55

```

In [Figure 185](#), the SET=ON keyword was used with the IXDS line command to display all active IDMS System Exception Keywords.

IXVS - Vary IDMS System Exception Definitions

The IXVS line command is used to activate or terminate System Exception Definitions. Alter the exception thresholds and the various options. Keywords are used to select the exception number, specify thresholds, and select options.

Keyword	Function
EXA= <i>nnn</i>	Specify Exception Definition Number
SET=ON|OFF	Activate/terminate the Exception Definition
SPR=Y|N	Alter to Spare Entry
CONTROL OPTIONS - See "IDMS Exception Analysis Control Options" on page 426 for further information.	
TOD> <i>hhmm</i>	Time of Day Range - lower limit
TOD< <i>hhmm</i>	Time of Day Range - upper limit
SYN=Y|N	Synchronize with statistics interval
TIN= <i>nnn</i>	Specify Time Interval
DLY= <i>nnn</i>	Specify Exception Delay
TDL= <i>nnn</i>	Specify Exception Time Delay
LIM= <i>nnn</i>	Specify Exception Limit

Keyword	Function
LMX= <i>nnn</i>	Specify Exception Limit-x
TLM= <i>nnn</i>	Specify Time of Day Limit
PRI= <i>nnn</i>	Specify Exception Priority
AND=Y|N	Request AND Logic for Exception Thresholds
SND=Y|N	Activate/terminate Terminal Sound Option
LOGGING OPTION - See "IDMS Exception Analysis Logging Option" on page 434 for further information.	
LOG= <i>xxx</i>	Specify Exception Logging Option

ASG-SERVER FACILITY OPTION - See ["IDMS Exception Analysis ASG-SERVER FACILITY Option" on page 435](#) for further information.

Keyword	Function
ASF= <i>xxxx</i>	Specify four-character subsystem ID for the ASG-Server Facility

MESSAGE OPTIONS - See ["IDMS Exception Analysis Message Options" on page 437](#) for further information.

Keyword	Function
MSG=' <i>message</i> '	User Supplied Exception Message, replaces all threshold messages (enclosed in single quotes ('))
CLR= <i>x</i>	Specify message color
USR=' <i>userid</i> '	Send Exception Message to TSO user ID list (enclosed in single quotes ('))
CON=Y|N	Send Exception Message to MVS Console
RTC= <i>n,n,n,...</i>	Specify Console Route Codes
DSC= <i>n,n,n,...</i>	Specify Console Descriptor Codes, 2, 7, and 11 are the only codes supported
USO= <u>L</u>|N	User Send option, LOGON or NOW

SCREEN OPTIONS - See ["IDMS Exception Analysis Screen Options" on page 431](#) for further information.

Keyword	Function
PRT=Y|N	Activate/terminate Screen Print Option
FRZ=Y|N	Activate/terminate Freeze Frame Option
SCR= <i>screen name</i>	Specify Screen Chaining Name
SDL= <i>nnn</i>	Specify Screen Chaining Delay
SLM= <i>nnn</i>	Specify Screen Chaining Limit

COMMAND OPTIONS - See ["IDMS Exception Analysis Command Options" on page 443](#) for further information.

Keyword	Function
CMD=' <i>command</i> '	Specify Exception Command (enclosed in single quotes ('))
JOB= <i>member</i>	Specify Member name for Batch Job Option
CDL= <i>nnn</i>	Specify Exception Command Delay
CLM= <i>nnn</i>	Specify Exception Command Limit

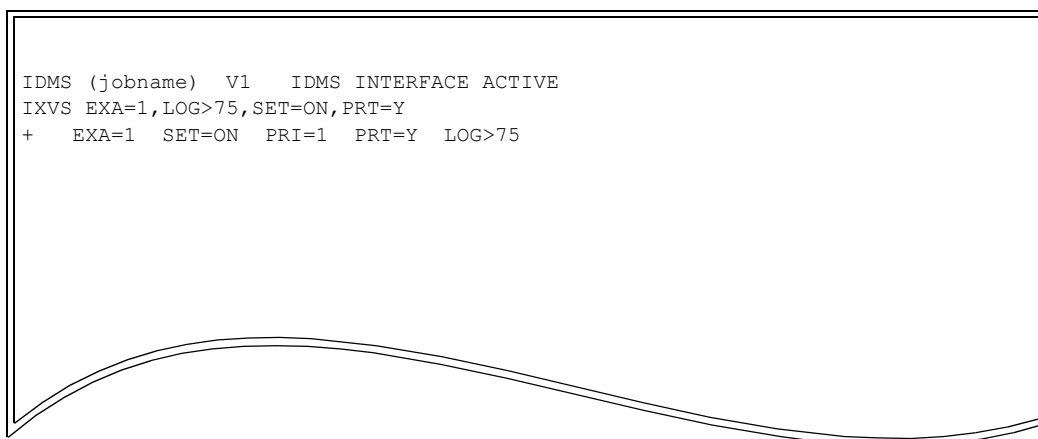
EXCEPTION OPTIONS - See ["IDMS System Exception Thresholds" on page 348](#) for further information.

Keyword	Keyword	Function
LOG> <i>nnn</i>	LOG< <i>nnn</i>	Log file percent full
STG> <i>nnn</i>	STG< <i>nnn</i>	Storage pool(s) percent full
JRN> <i>nnn</i>	JRN< <i>nnn</i>	Journal percent full
JFC> <i>nnn</i>	JFC< <i>nnn</i>	Journals full count
TCT> <i>nnn</i>	TCT< <i>nnn</i>	Task count (percent of MAX-TASKS)
ABN> <i>nnn</i>	ABN< <i>nnn</i>	Tasks abended count
TRT> <i>nnn</i>	TRT< <i>nnn</i>	Task rate (tasks per second)
ITR> <i>nnn</i>	ITR< <i>nnn</i>	Interval task rate (tasks per second)
PRG> <i>nnn</i>	PRG< <i>nnn</i>	24-bit program pool percent full
P31> <i>nnn</i>	P31< <i>nnn</i>	31-bit program pool percent full
RNT> <i>nnn</i>	RNT< <i>nnn</i>	24-bit reentrant pool percent full

Keyword	Keyword	Function
R31> <i>nnn</i>	R31< <i>nnn</i>	31-bit reentrant pool percent full
RLE> <i>nnn</i>	RLE< <i>nnn</i>	RLE's percent used
RCE> <i>nnn</i>	RCE< <i>nnn</i>	RCE's percent used
DPE> <i>nnn</i>	DPE< <i>nnn</i>	DPE's percent used
ECB> <i>nnn</i>	ECB< <i>nnn</i>	ECB's percent used
RUL> <i>nnn</i>	RUL< <i>nnn</i>	Run unit locks percent of max (IDMS 10.2)
RUL> <i>nnn</i>	RUL< <i>nnn</i>	Run unit lock count (IDMS 12.0)
LTL> <i>nnn</i>	LTL< <i>nnn</i>	L-term lock count
CPU> <i>nnn</i>	CPU< <i>nnn</i>	CPU utilization percent
IOR> <i>nnn</i>	IOR< <i>nnn</i>	Input and Output rate (per second)
PGR> <i>nnn</i>	PGR< <i>nnn</i>	Page-in rate (per second)
ICP> <i>nnn</i>	ICP< <i>nnn</i>	Interval CPU utilization percent
IIO> <i>nnn</i>	IIO< <i>nnn</i>	Interval Inout and Output rate (per second)
IPG> <i>nnn</i>	IPG< <i>nnn</i>	Interval page-in rate (per second)
BWC> <i>nnn</i>	BWC< <i>nnn</i>	Buffer waits that have occurred since last sample
IBW> <i>nnn</i>	IBW< <i>nnn</i>	Buffer waits that have occurred since beginning of the interval
RSP> <i>nnn</i>	RSP< <i>nnn</i>	Replication cache storage percentage
RSH> <i>nnn</i>	RSH< <i>nnn</i>	Replication cache storage high-water-mark percentage
RLC> <i>n . nnnn</i>	RLC< <i>n . nnnn</i>	Replication latency for last commit process
RAD> <i>n . nnnn</i>	RAD< <i>n . nnnn</i>	Replication apply delay
RAE> <i>nnn</i>	RAE> <i>nnn</i>	Replication apply error count
MIS= <i>taskcode</i>		Missing task analysis task code
OPR= <i>userid</i>		Operator console user ID
SOS=Y|N		Short-on-storage condition exists
MXT=Y|N		Max-tasks condition exists
RWT=Y/N		IDMS region ready and waiting for CPU
PDE= <i>program-name</i>		Program definition error count
TDE= <i>task-code</i>		Task definition thread count

In [Figure 186](#) the IXVS line command activates Exception Number 1 (EXA=1) (SET=ON) for Log Analysis (LOG>75) with the threshold greater than 75%, and requests the Screen Print Option (PRT=Y). The Priority assumes the default of 1 (PRI=1).

Figure 186 • IXVS line command



IDMS System Exception Thresholds

The following subsections describe the various type of IDMS System Exception Thresholds.

IDMS System Log Area Full Exception

Exception Keywords	LOG> <i>nnn</i> or LOG< <i>nnn</i>	(percent)
Default Message	LOG AREA <i>nnn</i> % FULL	
Message Number	PAIDX001	
Text Keyword	&LOGP	

The percentage of space used in the DDLDCLOG area meets or exceeds the exception thresholds, indicating that the RHDCPRLG utility program should be used to offload the DDLDCLOG area. When the log area becomes 100% full, the IDMS CV system halts execution and waits for the user to offload the log area.

IDMS System Journal Percent Full Exception

Exception Keywords	JRN> <i>nnn</i> or JRN< <i>nnn</i>	(percent)
Default Message	<i>journal-name</i> JOURNAL <i>nnn</i> %	FULL
Message Number	PAIDX002	
Text Keywords	JRNL	journal name
	&JRNP	percent full

The percentage of space used in the indicated journal file meets or exceeds the exception threshold. This indicates that a journal file is becoming full and the IDMSAJNL utility program should be run to offload the journal. When all journal files become full, the IDMS CV system halts processing until a journal has been offloaded.

IDMS System Full Journal Count Exception

Exception Keywords	FC> <i>nnn</i> or JFC< <i>nnn</i>	(percent)
Default Message	<i>nnn</i> JOURNALS FULL WITHOUT IDMSAJNL	
Message Number	PAIDX016	
Text Keyword	&JFCT	

The number of full journals meets or exceeds the exception threshold. This number does not include full journals where an IDMSAJNL job is actively condensing or offloading the journal. This number does include journals where IDMSAJNL is waiting for a tape mount.

A system exception definition with JFC>2 allows one journal to be full (e.g., waiting on a tape mount), but produces an exception when two or more journals are full.

IDMS System Storage Pool Full Exception

Exception Keywords	STG> <i>nnn</i> or STG< <i>nnn</i>	(percent)
Default Message	STORAGE POOL <i>xxx</i>	<i>nnn</i> % FULL
Message Number	PAIDX003	
Text Keywords	&STGN	pool number
	&STGP	percent full

The percentage of space used in storage pool *xxx* meets or exceeds the exception threshold. This may indicate that the storage pool is approaching a short-on-storage condition. The demand on the storage pool may be reduced by lowering the MAX-TASK value. Also, the storage pool cushion may be reduced to make more storage immediately available.

IDMS System Task Count Exception

Exception Keywords	TCT> <i>nnn</i> or TCT< <i>nnn</i>	(percent)
Default Message	TASK COUNT: <i>nnn</i> TASKS ACTIVE	<i>nnn</i> MAX ALLOWED
Message Number	PAIDX006	
Text Keywords	&TCTC	tasks active count
	&TCTM	MAX-TASKS <i>value</i>

The number of active tasks (system + online + external) meets or exceeds the exception threshold, indicating that the CV may be approaching a MAX-TASKS condition.

The exception threshold is specified as a percentage of the MAX-TASKS value. This eliminates the need to change the threshold whenever the MAX-TASKS value is changed.

IDMS System Tasks Abended Count Exception

Exception Keywords	ABN> <i>nnn</i> or ABN< <i>nnn</i>	
Default Message	<i>nnn</i> TASKS ABENDED	
Message Number	PAIDX022	
Text Keywords	&TABN	Tasks abended count

Since the last time PreAlert monitored the IDMS Central Version, the number of task abends meets or exceeds the exception threshold. This exception is used to monitor when tasks have abended. This only indicates that the abends have occurred; it does not indicate which tasks have abended.

The Active task abending exception may be used to monitor individual task abends. A task can complete abend processing (roll-out and dumping) between times when PreAlert is monitoring the IDMS region. The IDMS System tasks Abended Count exception detects the change in the total abend count under these conditions.

IDMS System Task Rate Exception

Exception Keywords	TRT> <i>nnn</i> or TRT< <i>nnn</i>	
Default Message	TASK RATE= <i>nnn.nn</i> TASKS PER SECOND	
Message Number	PAIDX017	
Text Keywords	&TRTS	

The task rate, or number of tasks completed per second, meets or exceeds the exception threshold. This is a good indicator of the workload that the IDMS CV is handling.

A system exception definition can be built to monitor slow downs caused by excessive workloads. Using a low task rate threshold (TRT<2) and a high task count threshold (TCT>80) will detect the excessive workload. This exception may also occur as the result of some other delay causing the CV to backup.

IDMS System Interval Task Rate Exception

Exception Keywords	ITR> <i>nnn</i> or ITR< <i>nnn</i>	
Default Message	INTERVAL TASK RATE= <i>nnn.nn</i> TASKS PER SECOND	
Message Number	PAIDX026	
Text Keywords	&ITRT	Interval Task Rate

The interval task rate meets or exceeds the exception threshold. The interval task rate is the number of tasks completed per second since the beginning of the current statistics interval.

The interval task rate exception is often used with the interval CPU utilization or interval Input and Output rate exceptions to detect long-term CPU or Input and Output problems.

IDMS System Program Pool Full Exception

Exception Keywords	PRG> <i>nnn</i> or PRG< <i>nnn</i>	(percent)
	P31> <i>nnn</i> or P31< <i>nnn</i>	(percent)
Default Message	24-BIT PROGRAM POOL <i>nnn</i> %	FULL
	31-BIT PROGRAM POOL <i>nnn</i> %	FULL
Message Number	PAIDX004	
Text Keywords	&PGMP	24-bit pool percent full
	&PGMX	31-bit pool percent full

The PRG keywords are used to monitor the 24-bit program pool. P31 keywords are used to monitor the 31-bit (XA) program pool. The percentage of space used in a program pool represents the amount of storage used to hold the programs that are currently loaded in that pool. This may include programs that have been previously loaded but are not currently in use. The wait-to-load count or the number of loads overlaying a program in use should be monitored before increasing the size of the pool.

IDMS System Reentrant Pool Full Exception

Exception Keywords	RNT> <i>nnn</i> or RNT< <i>nnn</i>	(percent)
	R31> <i>nnn</i> or R31< <i>nnn</i>	(percent)
Default Message	24-BIT REENTRANT POOL <i>nnn</i> %	FULL
	31-BIT REENTRANT POOL <i>nnn</i> %	FULL
Message Number	PAIDX005	
Text Keywords	&RNTP	24-bit pool percent full
	&RNTX	31-bit pool percent full

The RNT keywords are used to monitor the 31-bit reentrant pool. R31 keywords are used to monitor the 31-bit (XA) reentrant pool. The percentage of space used in a reentrant pool represents the amount of storage used to hold the programs that are currently loaded in that pool. This may include programs that have been previously loaded but are not currently in use. The wait-to-load count or the number of loads overlaying a program in use should be monitored before increasing the size of the pool.

IDMS System RCE Shortage Exception

Exception Keywords	RCE> <i>nnn</i> or RCE< <i>nnn</i>	(percent)
Default Message	RCE SHORTAGE <i>nnn</i> %	USED
Message Number	PAIDX007	
Text Keywords	&RCEP	

The percentage of Resource Control Elements (RCEs) meets or exceeds the exception threshold. When the RCE usage exceeds 90 percent, the CV will abend the task requesting the RCE, and will not dispatch any new tasks until the RCE usage has dropped below 90 percent.

IDMS System RLE Shortage Exception

Exception Keywords	RLE> <i>nnn</i> or RLE< <i>nnn</i>	(percent)
Default Message	RLE SHORTAGE <i>nnn</i> %	USED
Message Number	PAIDX008	
Text Keywords	&RLEP	

The percentage of Resource Link Elements (RLEs) meets or exceeds the exception threshold. When the RLE usage exceeds 90 percent, the CV abends the task requesting the RLE, and will not dispatch any new tasks until the RLE usage has dropped below 90 percent.

IDMS System DPE Shortage Exception

Exception Keywords	DPE> <i>nnn</i> or DPE< <i>nnn</i>	(percent)
Default Message	DPE SHORTAGE <i>nnn</i> %	USED
Message Number	PAIDX009	
Text Keywords	&DPEP	

The percentage of Deadlock Prevention Elements (DPEs) meets or exceeds the exception threshold. When the DPE usage exceeds 90 percent, the CV abends the task requesting the DPE, and will not dispatch any new tasks until the DPE usage has dropped below 90 percent.

IDMS System ECB Shortage Exception

Exception Keywords	ECB> <i>nnn</i> or ECB< <i>nnn</i>	(percent)
Default Message	ECB SHORTAGE <i>nnn</i> %	USED
Message Number	PAIDX010	
Text Keywords	&ECBP	

The percentage of Event Control Blocks (ECBs) used in the operating system wait list area meets or exceeds the exception threshold. When the wait list is full, any task not receiving an ECB within the stall time interval will be abended.

IDMS System Run Unit Lock Count Exception

Exception Keywords	RUL> <i>nnn</i> or RUL< <i>nnn</i>	(percent for 10.2)
	RUL> <i>nnn</i> or RUL< <i>nnn</i>	(count for 12.0)
Default Message	SYSTEM RUN UNIT LOCK COUNT OF MAX COUNT = <i>nnn</i> , <i>nnn</i> %	
Message Number	PAIDX022	
Text Keywords	&RULC	Run unit lock count
	&RULP	percent of max, IDMS 10.2 only

For IDMS 10.2, the percentage of maximum locks held by active run units meets or exceeds the exception threshold. The exception threshold is expressed as a percentage of the system locks value in the IDMS SYSGEN. The system locks value represents the initial number of locks that storage is obtained to hold. When additional locks are needed, the CV obtains additional storage to maintain the locks. Therefore, it is possible for the lock count exception to exceed 100%, indicating that the CV has obtained more storage for the additional locks.

For IDMS 12.0, the total number of locks held by active run units meets or exceeds the exception threshold. Typically this threshold is used to invoke additional analysis of active task lock usage. In situations where a single task is holding a large number of locks, the task should be examined. When the locks appear to be distributed among several tasks, it may be necessary to decrease the max tasks value or increase the SYSGEN SYSLOCK value.

IDMS System L-term Lock Count Exception

Exception Keywords	LTL> <i>nnn</i> or LTL< <i>nnn</i>
Default Message	SYSTEM LTERM LOCK COUNT = <i>nnn</i>
Message Number	PAIDX012
Text Keywords	<LC

The total number of locks associated with logical terminals meets or exceeds the exception threshold. A lock is associated with an L-term when the lock is held across a pseudo-converse. A high number of L-term locks cause the same performance problems as experienced when a large number of locks is held by run units.

IDMS System CPU Utilization Exception

Exception Keywords	CPU> <i>nnn</i> or CPU< <i>nnn</i>	(percent)
Default Message	CPU UTILIZATION = <i>nnn.nn</i> %	
Message Number	PAIDX013	
Text Keywords	&CPUP	

The amount of CPU utilization for the IDMS CV meets or exceeds the exception threshold. PreAlert calculates the CPU percentage as the total CPU time divided by the wall-clock time. When the multi-processing feature of IDMS 10.2 is enabled, CPU utilization may exceed 100%. A value greater than 100% indicates that the CV is successfully utilizing the multi-processor environment.

IDMS System Input and Output Rate Exception

Exception Keywords	IOR> <i>nnn</i> or IOR< <i>nnn</i>	(Inputs and Outputs per second)
Default Message	Input and Output RATE = <i>nnn.nn</i>	
Message Number	PAIDX014	
Text Keywords	&IORT	

The Input and Output rate per second for the CV meets or exceeds the exception threshold. The Input and Output rate is measured as the Input and Output rate for the entire CV, including database, journal, log, etc.

The Input and Output rate exception may be combined with the CPU rate exception to indicate either a CPU loop condition (CPU>80, IOR<1, AND=Y) or an Input and Output loop condition (CPU<5, IOR>50, AND=Y).

IDMS System Page-in Rate Exception

Exception Keywords	PGR> <i>nnn</i> or PGR< <i>nnn</i>	(pages/second)
Default Message	LOCAL PAGE-IN RATE= <i>nn.nn</i>	
Message Number	PAIDX015	
Text Keywords	&PGIR	

The local page-in rate for the CV meets or exceeds the exception threshold. Page waits can cause performance problems since IDMS cannot manage page waits in the same manner as other waits (such as DB Input and Output). The multi-processing feature of IDMS, expanded storage, and solid-state devices can help eliminate the effect of page waits. Preferably, all paging should be eliminated.

IDMS System Interval CPU Utilization Exception

Exception Keywords	ICP> <i>nnn</i> or ICP< <i>nnn</i>	
Default Message	INTERVAL CPU UTILIZATION= <i>nnn.nn</i>	
Message Number	PAIDX023	
Text Keywords	&ICPU	Interval CPU utilization

The interval CPU utilization for the IDMS CV meets or exceeds the exception threshold. The interval CPU utilization is the total CPU time used divided by the time since the beginning of the current statistics interval.

The interval CPU utilization exception is used to monitor long-term CPU utilization.

IDMS System Interval Input and Output Rate Exception

Exception Keywords	IIO> <i>nnn</i> or IIO< <i>nnn</i>	
Default Message	INTERVAL Input and Output RATE= <i>nnn.nn</i>	
Message Number	PAIDX024	
Text Keywords	&IIO	Interval Input and Output Rate

The interval Input and Output rate per second for the IDMS CV meets or exceeds the exception threshold. The interval Input and Output rate is the total Inputs and Outputs completed divided by the time since the beginning of the current statistics interval.

The interval Input and Output rate may be used to monitor long-term Input and Output activity for the IDMS CV.

IDMS System Interval Page-in Rate Exception

Exception Keywords	IPG> <i>nnn</i> or IPG< <i>nnn</i>	
Default Message	INTERVAL PAGE-IN RATE= <i>nnn.nn</i>	
Message Number	PAIDX025	
Text Keywords	&IPGR	Interval page-in rate

The interval page-in rate per second for the IDMS CV meets or exceeds the exception threshold. The interval page-in rate is the number of local page-ins divided by the time since the beginning of the current statistics interval.

The interval page-in rate may be tied with the interval buffer utilization ratio exceptions to adjust the number of buffers up or down. As long as the page-in rate remains low, the number of buffers may be increased for buffers with a poor buffer utilization ratio. When the paging rate increases, the buffers may be decreased for buffers with a high utilization ratio.

IDMS System Buffer Wait Count Exception

Exception Keywords	BWC> <i>nnn</i> or BWC< <i>nnn</i>	
Default Message	<i>nnn</i> BUFFER WAITS OCCURRED	
Message Number	PAIDX027	
Text Keywords	&BFWC	Buffer wait count

During the last PreAlert sample, the number of buffer waits met or exceeded the exception thresholds. The message indicates the number of times that any active task has had to wait for a buffer element. This condition does not mean that an active task is currently waiting for a buffer, only that some buffer waits have occurred during the last PreAlert sample.

IDMS System Interval Buffer Wait Count Exception

Exception Keywords	IBW> <i>nnn</i> or IBW< <i>nnn</i>	
Default Message	INTERVAL BUFFER WAIT COUNT = <i>nnnn</i>	
Message Number	PAIDX028	
Text Keywords	&BIWC	Interval buffer wait count

The interval buffer wait count meets or exceeds the exception threshold. The interval buffer wait count is the number of times any active task had to wait for a buffer element during the current statistics interval.

IDMS System Missing Task Exception

Exception Keywords	MIS- <i>taskcode</i>	
Default Message	<i>taskcode</i> TASK MISSING	
Message Number	PAIDX018	
Text Keywords	&MIST	

The indicated task code was not found active in the system. This is useful for ensuring that system driver tasks (print, line, database, etc.) are executing continuously.

IDMS System Operator Signon Exception

Exception Keywords	OPR= <i>userid</i>
Default Message	OPERATOR CONSOLE <i>userid</i> SIGNED ON
Message Number	PAIDX019
Text Keywords	&OPRI

The OPR= keywords specify the user ID that should be signed on to the IDMS terminal definition for the Operator Console. If either the Operator Console was not signed on, or another user ID was signed on, the exception will occur.

This exception is typically used with the exception command option to automatically sign-on to the operator console with the user ID.

IDMS System Short-on-Storage Exception

Exception Keywords	SOS=Y|N
Default Message	SHORT-ON-STORAGE CONDITION EXISTS
Message Number	PAIDX029

The IDMS CV is currently in a short-on-storage condition. A short-on-storage condition exists when some of the storage cushion for *each* storage pool is being used. IDMS temporarily suspends the dispatching of any new active tasks until the short-on-storage condition has been relieved.

Quite often, when the CV enters a short-on-storage condition, a single task has consumed an extreme amount of storage to cause the condition. If possible, this task should be canceled; otherwise, the CV may need to be canceled.

IDMS System Max-tasks Exception

Exception Keywords	MXT=Y|N
Default Message	MAX-TASKS CONDITION EXISTS
Message Number	PAIDX030

The IDMS CV is currently in a max-tasks condition. The max-tasks condition occurs when the number of active tasks has reached the max-tasks value. Any additional requests for work remain queued at the logical terminal until the condition is relieved.

The max-tasks condition indicates either:

- A high work load for the CV. In this case, the max-tasks value should be increased.
- Another bottleneck within the CV that is causing an overall reduction of task performance.

IDMS System Ready and Waiting Exception

Exception Keywords	RWT=Y/N
Default Message	REGION READY AND WAITING FOR CPU
Message Number	PAIDX032

The IDMS-CV has one or more TCBs ready to execute, and the region has not been dispatched since the previous PreAlert cycle. This indicates that the IDMS-CV has work to be done, but the MVS dispatcher is allowing other regions to execute and has not allowed it to execute.

This exception should be used with the delay keywords, DLY or TDL, to eliminate the occasional spikes where an idle IDMS-CV has just received a new task to execute. This ensures that the IDMS-CV has been ready and waiting for a significant period of time.

IDMS System Program Definition Errors Exception

Exception Keywords	PDE= <i>program-name</i>	
Default Message	<i>program-name</i> PROGRAM CHECK COUNT = <i>nnnn</i> THRESHOLD= <i>nnnn</i>	
Message Number	PAIDX031	
Text Keywords	&PDEN	Program-name
	&PDEC	Program check count
	&PDET	Program check threshold

For the specified program-name, the program check count is reaching the program check threshold. The exception occurs when the program check count is within one check of the threshold.

The exception provides a warning for a program definition that may become disabled because the program has exceeded its error threshold.

IDMS System Task Definition Thread Count Exception

Exception Keywords	TDE= <i>task-code</i>	
Default Message	<i>task-code</i> TASK THREAD COUNT = <i>nnnn</i> MAXIMUM= <i>nnnn</i>	
Message Number	PAIDX033	
Text Keywords	&TDEN	Task-code
	&TDEC	Current thread count
	&TDET	Maximum thread count

For the specified task-code, the current task thread count has reached the maximum thread count. This exception provides a warning when a task is concurrently being used an excessive number of times.

IDMS System Replication Cache Storage Exception

Exception Keywords	RSP> <i>nnn</i> or RSP< <i>nnn</i> (percent)
Default Message	REPLICATION CACHE STORAGE AT <i>nnn</i> % of MAX
Message Number	PAIDX034
Text Keyword	&RSPC

For ASG-Replication Suite Real-Time Option (herein called Real-Time Option), the percentage cache storage usage has met the exception threshold. This storage is allocated from the CA-IDMS CV's region and is limited by the ADGTAB table.

IDMS System Replication Cache Storage High-Water-Mark Exception

Exception Keywords	RSH> <i>nnn</i> or RSH< <i>nnn</i> (percent)
Default Message	REPLICATION CACHE HWM AT <i>nnn</i> % of MAX
Message Number	PAIDX035
Text Keyword	&RSHP

For Real-Time Option, the percentage high-water-mark of cache storage in use by replication has met the exception threshold. The value is calculated as the storage high-water-mark divided by the maximum cache storage allowed time 100%.

IDMS System Replication Latency for Last Commit Process Exception

Exception Keywords	RLC> <i>n.nnnn</i> or RLC< <i>n.nnnn</i> (seconds)
Default Message	REPLICATION LATENCY FOR LAST COMMIT PROCESS = <i>n.nnnnS</i>
Message Number	PAIDX036
Text Keyword	&RLTC

For Real-Time Option, the latency for the last commit process has met the exception threshold. This is the time difference between a Commit on CA-IDMS and that same Commit processed on the target DB.

IDMS System Replication Apply Execution Delay

Exception Keywords	RAD> <i>n.nnnn</i> or RAD< <i>n.nnnn</i> (seconds)
Default Message	REPLICATION APPLY EXECUTION DELAY = <i>n.nnnnS</i>
Message Number	PAIDX037
Text Keyword	&RAED

For Real-Time Option, the latency for the last commit process has met the exception threshold. This is the current latency of DML records in MQSeries. Calculated as the time difference between last cache execution and last apply process.

IDMS System Replication Apply Errors

Exception Keywords	RAE> <i>nnn</i> or RAE< <i>nnn</i>
Default Message	REPLICATION APPLY ERROR COUNT = <i>nnn</i>
Message Number	PAIDX038
Text Keyword	&RAEC

For Real-Time Option, the number of apply errors that occurred since the last PreAlert has met the exception threshold. This represents the number of apply errors encountered by ASG-Connection Manager for SQL statements processed by Real-Time Option.

IDMS Active Task Exception Analysis

PreAlert's IDMS Active Task Exception Analysis provides the ability to monitor active tasks for several specific conditions based on the status of the task or on certain statistics. The analysis of each condition is controlled through a threshold keyword in an Active Task Exception Definition. Each exception definition may contain one or more exception threshold keywords, allowing for AND logic and exceptions based on a range of values.

An Active Task Exception Definition assigns a specific set of exception thresholds to a group of one or more tasks. The tasks are identified by a task code maintained in the exception definition. The actual selection of exception definitions for an active task depends on the task type: system, user (online), or external. The selection criteria are described in ["Active Task Exception Definition Selection" on page 363](#).

For each task type (system, user, and external) a global exception definition is available. This is typically used to establish a default set of thresholds for all active tasks. Additional specific task exception definitions may be built to override the global definitions.

A number of spare active task exception definitions must be included when the exception level set is initially built (through the IDXINIT macro). The active task exception definitions may be pre-defined using the IDXTASK macro, or may be created and modified dynamically using the IXVT line command. The IDXINIT and IDXTASK macros are described in the ["IDMS Exception Analysis Batch Definition Facility" on page 476](#). The IXVT line command is described in ["IXVT - Vary IDMS Task Exception Definitions" on page 366](#).

Active Task Exception Definition Selection

For each active task within the CV, PreAlert selects any number of task exception definitions. The exception definitions are selected based upon the task type, system, user, or external, and a task code for the task. Each active task exception definition must contain a task type and a task code mask specification.

The origin of the task code for the task is based on the task type as follows.

For system tasks:

- The task's program name.

For user tasks:

- Dialog name for ADS/O dialogs
- Program name for ADS/O processes
- Task code for all other online tasks

For external tasks:

- Program name, for TYP=E or TYP=O exception definitions
- Batch jobname, for TYP=J exception definitions
- Batch job class, for TYP=C exception definitions

The TCD= keyword specifies the task code in the exception definition. The usage of the task code is based on the task type, TYP=, specification as follows:

Task Type	Specification
TYP=S	TCD=system program name mask
TYP=U	TCD=dialog name, process name, or task code mask
TYP=E	TCD=external program name mask
TYP=J	TCD=batch jobname mask
TYP=C	TCD=batch job class mask
TYP=O	TCD=external online program name mask

The TYP=E keyword signifies all external tasks, whether batch or online. The TYP=J and TYP=C keywords represent external tasks for batch jobs only.

The TYP=O keyword identifies external tasks from an online non-batch source, such as CICS.

When multiple exception definitions have been selected for an active task, they are selected according to the best fit value of the task code, TCD= mask. The best fit value is based upon the number of characters in the mask, plus the position of each character. (Asterisks (*) are not counted.) TASK12* has a higher best fit value than TASK* since more characters were specified. If the same number of characters is specified, the characters at the beginning of the mask are weighted more heavily (i.e., TASK1* fits better than TASK*2*).

For every active task, a global exception definition is always selected, based on the task type. The global exception definitions are used to specify default thresholds. Global exception definitions always have the lowest best fit value of any exception definitions.

When multiple exception definitions have been selected for the active task and the highest exception definition has been terminated (SET=OFF), all exception analysis will be suppressed for the task.

IXDT - Display IDMS Active Task Exception Definitions

The IXDT line ([Figure 187](#)) command displays IDMS Active Task Exception Definitions. The display defaults to all non-spare active task exception definitions. Keywords may be used to select specific active task exception definitions or to select all active or all inactive active task exception definitions.

Keyword	Function
TCD=task code	Display exception definitions by task code
TYP=type	Display exception definitions by task type
	U User/Online Task
	S System Task
	E External Task
	J Batch Jobname
	C Batch Job Class
	O Online External Task
SET=ON/OFF	Display exception definitions by status
	ON=active
	OFF=inactive

Figure 187 • IXDT line command

```

IDMS (jobname) V1 IDMS INTERFACE ACTIVE TASKS: 11 1.21/SEC
IXDT TYP=U
+ GBL=1 TCD=GLOBAL-U TYP=U SET=ON STG>200 TTM>30 STM>5 UTM>20 LOC>10
+ EXA=1 TCD=OPER SET=OFF
+ EXA=2 TCD=AP* TYP=U SET=ON PRT=Y STG>300 LOC>25 DBR>300
+ EXA=3 TCD=AP0050T TYP=U SET=ON SND=Y SCR=IDMSAP5T SDL=5 TTM>60
+ DBR>4000 SLM=3

```

In this example, the TYP=U keyword was entered with the IXDT line command to display all IDMS Active Task Exception Definitions for user (online) tasks.

The Exception Definition for the OPER task code has been terminated (SET=OFF). This will exclude the OPER task code from any Exception Analysis.

IXVT - Vary IDMS Task Exception Definitions

The IXVT line command is used to activate or terminate the various Active Task Exception Definitions and to alter threshold values and options. Keywords are used to select Exception Definitions by exception number, and to specify task code, task type, exception thresholds, and options.

Each IDMS Exception level set should contain a number of spare task exception definitions to allow for additional task definitions. Task definitions may be added by specifying the task code and the exception thresholds and options. If all spare entries have been used, any task definition may be changed to a spare entry, thus allowing further additions.

Keyword	Function
EXA= <i>nnn</i>	Task Exception Definition Number
GBL= <i>nnn</i>	Global Task Exception Definition Number
	1 System
	2 External
	3 User tasks
TCD= <i>mask</i>	Task Code Mask
TYP= <i>x</i>	Specify Task Type (default = U)
	U User/Online Task
	S System Task
	E External Task
	J Batch Jobname
	C Batch Job Class
	O Online External Task
SET=ON|OFF	Activate/Terminate the exception definition
SPR=Y|N	Alter to SPARE entry

CONTROL OPTIONS - See ["IDMS Exception Analysis Control Options" on page 426](#) for further information.

Keyword	Function
TOD> <i>hhmm</i>	Time of Day Range - lower limit
TOD< <i>hhmm</i>	Time of Day Range - upper limit
SYN=Y|N	Synchronize with statistics interval
TIN= <i>nnn</i>	Exception Time Interval
DLY= <i>nnn</i>	Exception Delay - Applies to the Task
TDL= <i>nnn</i>	Exception Time Delay
LIM= <i>nnn</i>	Exception Limit - Applies to the Task
LMX= <i>nnn</i>	Specify Exception Limit-x
TLM= <i>nnn</i>	Time of Day Limit
PRI= <i>nnn</i>	Exception Priority, used for message sequence & Screen chaining
AND=Y|N	Request AND Logic for Exception Thresholds
SND=Y|N	Activate/Terminate Terminal Sound Option
SUP=A|E|N	Supersede other Task Exception Definitions
	A Always
	E Exception occurs
	N Never

MESSAGE OPTIONS - See ["IDMS Exception Analysis Message Options" on page 437](#) for further information.

Keyword	Function
MSG= <i>'message'</i>	User Specified Exception Message replaces standard PreAlert messages (Enclosed in single quotes ('))
CLR= <i>x</i>	Specify Message Color
USR= <i>'userid's'</i>	Send Message to TSO user ID list (Enclosed in single quotes ('))
CON=Y|N	Send Message to MVS Console

Keyword	Function
RTC= <i>n,n,n,...</i>	Console Route Codes
DSC= <i>n,n,n,...</i>	Console Descriptor Codes (2, 7, & 11 only)
USO= <u>L</u> /N	User Send option, LOGON or NOW

LOGGING OPTION - See ["IDMS Exception Analysis Logging Option" on page 434](#) for further information.

Keyword	Function
LOG= <i>nnn</i>	Specify Exception Logging Option

ASG-SERVER FACILITY OPTION - See ["IDMS Exception Analysis ASG-SERVER FACILITY Option" on page 435](#) for further information.

Keyword	Function
ASF= <i>xxxx</i>	Specify four-character subsystem ID for the ASG-IMPACT/Server Facility

SCREEN OPTIONS - See ["IDMS Exception Analysis Screen Options" on page 431](#) for further information.

Keyword	Function
PRT=Y/N	Activate/terminate Screen Print Option
SCR= <i>screen name</i>	Specify Screen Chaining Name
SDL= <i>nnn</i>	Specify Screen Chaining Delay
SLM= <i>nnn</i>	Specify Screen Chaining Limit
FRZ=Y|N	Activate/terminate Freeze Frame Option

COMMAND OPTIONS - See ["IDMS Exception Analysis Command Options" on page 443](#) for further information.

Keyword	Function
CMD=' <i>command</i> '	Specify Exception Command (Enclosed in single quotes ('))
CDL= <i>nnn</i>	Specify Exception Command Delay

Keyword	Function
CLM= <i>nnn</i>	Specify Exception Command Limit
CMX=' <i>keyword</i> '	Specify Command Exception Codes (Enclosed in single quotes ('))
JOB= <i>member</i>	Specify Member Name for Batch Job Option

ABEND OPTIONS - See ["IDMS Exception Analysis Abend Options" on page 457](#) for further information.

Keyword	Function
ABX=Y|N	Request Task Abend
ADL= <i>nnn</i>	Abend Delay Count
ALM= <i>nnn</i>	Abend Limit Count

EXCEPTION OPTIONS - See ["IDMS System Exception Thresholds" on page 348](#) for further information.

Keyword	Keyword	Function
ABN=N|Y		Task Abend Analysis
TWT=N|Y		Task ready and waiting for CPU
SYS= <i>nnn</i>		Related System Exception definition
ABC> <i>nnn</i>	ABC< <i>nnn</i>	Abend request count
TTM> <i>nnn</i>	TTM< <i>nnn</i>	Transaction time (seconds)
STM> <i>n.nn</i>	STM< <i>n.nn</i>	System Mode CPU time (seconds)
UTM> <i>n.nn</i>	UTM< <i>n.nn</i>	User Mode CPU time (seconds)
CPU> <i>nnn</i>	CPU< <i>nnn</i>	Total CPU utilization (percent)
WTM> <i>nnn</i>	WTM< <i>nnn</i>	Current waiting time (seconds)
IOW> <i>nnn</i>	IOW< <i>nnn</i>	Input and Output waiting time (seconds)
JRW> <i>nnn</i>	JRW< <i>nnn</i>	Journal Input and Output waiting time (seconds)
AWT>. <i>nnnn</i>	AWT<. <i>nnnn</i>	Average waiting time per DB request (seconds)
DBR> <i>nnn</i>	DBR< <i>nnn</i>	Database request count
DBX> <i>nnn</i>	DBX< <i>nnn</i>	Database request rate (per second)

Keyword	Keyword	Function
IOR> <i>nnn</i>	IOR< <i>nnn</i>	Database Input and Output rate (per second)
PRR> <i>nnn</i>	PRR< <i>nnn</i>	Database pages read rate (per second)
PRC> <i>nnn</i>	PRC< <i>nnn</i>	Database pages read count
PDB> <i>nnn</i>	PDB< <i>nnn</i>	Pages read per DB call ratio
STG> <i>nnn</i>	STG< <i>nnn</i>	Storage size (K bytes)
LOC> <i>nnn</i>	LOC< <i>nnn</i>	Current lock count
RCE> <i>nnn</i>	RCE< <i>nnn</i>	RCEs in use count
VRO> <i>nnn</i>	VRO< <i>nnn</i>	VIA record overflow count
CRO> <i>nnn</i>	CRO< <i>nnn</i>	CALC record overflow count
OFP> <i>nnn</i>	OFP< <i>nnn</i>	CALC or VIA record overflow percent
RRU> <i>nnn</i>	RRU< <i>nnn</i>	Records updated, not committed count
RRC> <i>nnn</i>	RRC< <i>nnn</i>	Records requested ratio
RRR> <i>nnn</i>	RRR< <i>nnn</i>	Record request rate (per second)
SPL> <i>nnn</i>	SPL< <i>nnn</i>	Index record splits count
SPW> <i>nnn</i>	SPW< <i>nnn</i>	Index record spawns count
BUT> <i>nnn</i>	BUT< <i>nnn</i>	Buffer utilization ratio
RUJ> <i>nnn</i>	RUJ< <i>nnn</i>	Run unit journal images
ECB= <i>nnn,nnn,...</i>		Waiting on ECB IDs (1 to 255)
ECB= <i>nnn:mmm</i>		ECB IDs <i>nnn</i> through <i>mmm</i>
ECB=0		Terminate ECB ID analysis
ECB=- <i>nnn</i>		Remove ECB ID analysis for ECB ID <i>nnn</i>

Note:

Input and Output Waiting Time and Journal Waiting Time are subsets of the regular waiting time. That is, a task can be waiting for Input and Output (IOW), waiting for Journal (JRW), or waiting for anything else (WTM). Only one of these conditions can be true for a task.

IDMS Active Task Exception Messages

All exception messages for a task are displayed successively, in this format:

```
IDMS (jobname) V1 IDMS INTERFACE ACTIVE TASKS: 18 1.73/SEC
+ *** TASK task-id task-cd exception message (xx) ***
+ *** exception message (xx) ***
+ *** exception message (xx) ***
```

In [Figure 188](#), the ADS/O dialog GBLDI001 has two exceptions;

- Transaction time = 23.82 seconds, which was detected through Task exception definition 1 (T1).
- Storage size = 1268K bytes, detected through Global Task exception definition 3 (G3).

Figure 188 • IDMS Active Task Exception messages

```
IDMS (jobname) V1 IDMS INTERFACE ACTIVE TASKS: 18 1.73/SEC
+ *** TASK 3180 GBLDI001 TRANSACTION TIME = 23.82S (T1) ***
+ *** STORAGE SIZE = 1268K (G3) ***
ATSL
ATID 0 1 4 5 1827 3180 3188
ATCD *SYSTEM* *SYSTEM* *DRIVER* *DRIVER* OPER ADS2 ADS2
ADLG GBLDI001 GTEDU020
ATSO 215296 541184 37376 157120 668224 1298432 19520
ATTT 13:07H 13:07H 13:07H 13:07H 35:48M 23.82S 1.31S
```

IDMS Active Task Exception Thresholds

The following subsections describe the various IDMS Active Task Exception Thresholds.

Active Task Storage Size Exception

Exception Keywords	STG> <i>nnn</i> or STG< <i>nnn</i>	(K bytes)
Default Message	Task ID STORAGE SIZE = <i>nnnK</i>	
Message Number	PAIDX101	
Text Keywords	&ATSA	

The amount of storage allocated to the task meets or exceeds the exception threshold. If several tasks are using a large amount of storage concurrently, it may indicate that the CV is approaching a short-on-storage condition.

Active Task Transaction Time Exception

Exception Keywords	TTM> <i>nnn</i> or TTM< <i>nnn</i>	(seconds)
Default Message	Task ID TRANSACTION TIME = <i>nnn.nnS</i>	
Message Number	PAIDX102	
Text Keywords	&ATTT	

When the exception occurs for several tasks the task's transaction time meets or exceeds the exception threshold. This may indicate that the task is possibly looping, or that more serious problems (log full, RCE counts) exist within the CV.

Active Task System Mode CPU Time Exception

Exception Keywords	STM> <i>nnn</i> or STM< <i>nnn</i>	(seconds)
Default Message	Task ID SYSTEM TIME = <i>nnn.nnS</i>	
Message Number	PAIDX103	
Text Keywords	&ATTS	

The amount of CPU time used to process calls to IDMS (i.e., database requests) meets or exceeds the exception threshold. If tasks are using an unusually large amount of system mode time without an increase in IDMS calls, it may indicate that the CV is having problems satisfying the requests. This is particularly true when IDMS is maintaining a large number of locks.

Active Task User Mode CPU Time Exception

Exception Keywords	UTM> <i>nnn</i> or UTM< <i>nnn</i>	(seconds)
Default Message	Task ID USER TIME = <i>nnn.nnS</i>	
Message Number	PAIDX104	
Text Keywords	&ATTU	

The amount of user mode CPU time used by the task meets or exceeds the exception threshold. This probably represents an unusually large workload for the task or may indicate a problem with the task itself.

Active Task Lock Count Exception

Exception Keywords	LOC> <i>nnn</i> or LOC< <i>nnn</i>	(seconds)
Default Message	Task ID TOTAL LOCKS = <i>nnn.nnS</i>	
Message Number	PAIDX105	
Text Keywords	&ATLK	

The current number of database key locks held by the task meets or exceeds the exception threshold. This is probably a problem within the task itself, such as the lack of COMMIT verbs.

IDMS CV performance can be severely degraded when a large number of locks are maintained.

Active Task Database Requests Exception

Exception Keywords	DBR> <i>nnn</i> or DBR< <i>nnn</i>	(seconds)
Default Message	Task ID DATABASE REQUESTS= <i>nnn</i>	
Message Number	PAIDX106	
Text Keywords	&ATDB	

The number of database requests for the task meets or exceeds the exception threshold. This may indicate an unusually large workload for the task, or a problem with the task, such as a loop around one or more database calls.

Active Task CALC Overflow Exception

Exception Keywords	CRO> <i>nnn</i> or CRO< <i>nnn</i>	(seconds)
Default Message	Task ID CALC RECORD OVERFLOWS= <i>nnn</i>	
Message Number	PAIDX107	
Text Keyword	&ATCO	

The total number of CALC records stored causing an overflow meets or exceeds the exception threshold. An overflow occurs when the record to be stored cannot be written to the target page and must be stored on a different page.

Large numbers of overflows for a task indicate excessive database Input and Output to store and retrieve the record.

Active Task VIA Overflow Exception

Exception Keywords	VRO> <i>nnn</i> or VRO< <i>nnn</i>	(seconds)
Default Message	Task ID VIA RECORD OVERFLOWS= <i>nnn</i>	
Message Number	PAIDX108	
Text Keyword	&ATVO	

The total number of VIA records stored, causing an overflow, meets or exceeds the exception threshold. An overflow occurs when the record to be stored cannot be written to the target page and must be stored on a different page.

Large numbers of overflows for a task indicate excessive database Input and Output to store and retrieve the record.

Active Task Waiting Time Exception

Exception Keywords	WTM> <i>nnn</i> or WTM< <i>nnn</i>	(seconds)
Default Message	Task ID WAITING TIME= <i>nnn.nnS</i>	
Message Number	PAIDX109	
Text Keyword	&ATWT	

The amount of time the task has been waiting meets or exceeds the exception threshold. This indicates that the IDMS CV performance is being degraded. The ATEW line command may be used to display the ECB wait code (what the task is waiting on). The wait time exception may be combined with the ECB exception to monitor the wait time for a few specific events.

The wait time (WTM), Input and Output wait time (IOW), and journal wait time (JRW) exceptions can only occur one at a time.

Active Task Record Request Ratio Exception

Exception Keywords	PRR> <i>nnn</i> or PRR< <i>nnn</i>
Default Message	Task ID REC REQUEST RATIO= <i>nnn.nn</i>
Message Number	PAIDX110
Text Keyword	&ATRC

The ratio of records requested to records current of run unit meets or exceeds the exception threshold. This indicates a problem with the database area(s) used by the task. Many records are being referenced before the desired record is returned to the task as a result of long set structures.

Active Task Page Read Rate Exception

Exception Keywords	PRR> <i>nnn</i> or PRR< <i>nnn</i>
Default Message	PAGE READ RATE= <i>nnn.nn</i> PAGES/SEC
Message Number	PAIDX126
Text Keyword	&ARPR

The page read rate for the task meets or exceeds the exception threshold. PreAlert computes the page read rate from the number of pages physically read since the last time PreAlert monitored the task. If the task started after that, the page rate is measured from the beginning of the task.

For short tasks, transaction times less than one second, the page read rate may appear large when only a few pages have actually been read.

Active Task Pages Read Count Exception

Exception Keywords	PRC> <i>nnn</i> or PRC< <i>nnn</i>
Default Message	PAGE READ COUNT= <i>nnn</i>
Message Number	PAIDX127
Text Keyword	&ATPR

The total pages read for the task meets or exceeds the exception threshold. The pages read count exception may be used to enforce a standard for physical database Input and Output.

The pages read count exception may also be used to delay any exception analysis for a task until some actual database activity has taken place. Using PRC>10 with the pages read rate exception effectively delays the exception until the task has done a reasonable amount of database Input and Output.

Active Task Buffer Utilization Ratio Exception

Exception Keywords	BUT> <i>nnn</i> or BUT< <i>nnn</i>
Default Message	BUFFER UTILIZATION RATIO= <i>nnn.nn</i>
Message Number	PAIDX129
Text Keyword	&ATBU

The buffer utilization ratio for the task meets or exceeds the exception threshold. The buffer utilization ratio indicates how well the task is utilizing buffers. This ratio is computed as the number of records requested divided by the number of pages read. A high value indicates good buffer utilization; a low value indicates a need for some tuning effort for the databases and buffers accessed by the task.

Active Task Abending Exception

Exception Keywords	ABN=Y
Default Message	<i>Task ID</i> ABENDING
Message Number	PAIDX111

The TCEABND bit for the task has been set on, indicating that the task is abending. Refer to the DC log for more information on the cause of the abend.

Active Task Abend Request Count Exception

Exception Keywords	ABC> <i>nnn</i> or ABC< <i>nnn</i>
Default Message	ABEND REQUEST COUNT= <i>nnn.nn</i>
Message Number	PAIDX128
Text Keyword	&ATXC

The number of times that PreAlert has attempted to abend the task meets or exceeds the exception thresholds. The abend count exception is typically used to monitor the success of the CANCEL TASK option, ABX=Y keyword. Refer to ["IDMS Exception Analysis Abend Options" on page 457](#).

For example, assume an exception definition has been built to abend (ABX=Y) an active task for some reason. Another exception definition may be used to monitor the success of the abend option. Using ABC>3 will generate an additional exception message when PreAlert has attempted to abend the task three times.

Active Task Related System Exception

Exception Keywords SYS>*nnn*
Default Message *Task ID* SYSTEM EXCEPTION DEFN= *nnn*
Message Number PAIDX112
Text Keyword &SYSN

The task exception definition was built with the SYS=*nnn* keyword, and the indicated system exception has occurred. This is used to activate a task exception only when a specific system exception occurs.

For example, check the task storage size (over 100K) only when the storage pool exceeds 80% utilization. Then build a system exception definition with STG>80 and a task exception definition with STG>100, AND=Y, and SYS=*nnn*. The task exception will occur only when both the system exception has occurred and the task's storage size is greater than 100K.

Active Task Input and Output Wait Time Exception

Exception Keywords IOW>*nnn* or IOW<*nnn* (seconds)
Default Message *Task ID* Input and Output WAITING TIME= *nnn.nnS*
Message Number PAIDX113
Text Keyword &ATWT

The amount of time the task has been in an Input and Output wait meets or exceeds the exception threshold. A task is in an Input and Output wait when the wait time is greater than zero and the ECB wait code relates to database Input and Output.

The wait time (WTM), Input and Output wait time (IOW), and journal wait time (JRW) exceptions can only occur one at a time.

Active Task Journal Wait Time Exception

Exception Keywords	JRW> <i>nnn</i> or JRW< <i>nnn</i> (seconds)
Default Message	<i>Task ID</i> JOURNAL WAITING TIME= <i>nnn.nnS</i>
Message Number	PAIDX114
Text Keyword	&ATWT

The amount of time the task has been in a journal wait meets or exceeds the exception threshold. A task is in a journal wait when the wait time is greater than zero and the ECB wait code relates to a journal.

The wait time (WTM), Input and Output wait time (IOW), and journal wait time (JRW), exceptions can only occur one at a time.

Active Task Index Record Splits Exception

Exception Keywords	SPL> <i>nnn</i> or SPL< <i>nnn</i>
Default Message	<i>Task ID</i> INDEX RECORDS SPLITS= <i>nnn</i>
Message Number	PAIDX115
Text Keyword	&RUIS

The number of index record splits for the task meets or exceeds the exception threshold. Index record splits occur when additional index records are created for a database. These occurrences may indicate a database design problem.

Active Task Index Record Spawns Exception

Exception Keywords	SPW> <i>nnn</i> or SPW< <i>nnn</i>
Default Message	<i>Task ID</i> INDEX RECORDS SPAWNS= <i>nnn</i>
Message Number	PAIDX116
Text Keyword	&RUIP

The number of index record spawns for the task meets or exceeds the exception threshold. Index record spawns occur when additional index records are created for a database. These occurrences may indicate a database design problem.

Active Task RCE Usage Exception

Exception Keywords	RCE> <i>nnn</i> or RCE< <i>nnn</i>
Default Message	ID RCE USAGE= <i>nnn</i>
Message Number	PAIDX117
Text Keyword	&ATRE

The current number of RCEs used by the task meets or exceeds the exception threshold. When the CV becomes short on RCEs, the CV will abend the task that issued the request causing the RCE shortage. IDMS will not dispatch any new tasks until the shortage is relieved.

Active Task Overflow Records Exception

Exception Keywords	OFP> <i>nnn</i> or OFP< <i>nnn</i>	(percent)
Default Message	<i>Task ID</i> OVERFLOW RECORDS= <i>nnn.nn</i> %	
Message Number	PAIDX118	
Text Keyword	&ATOF	

The percentage of CALC or VIA record overflows meets or exceeds the exception threshold. The value is calculated as the percentage of all CALC or VIA records written that overflowed. A high percentage indicates that the database may need expansion or reorganization.

Active Task Average Wait Time Exception

Exception Keywords	AWT>. <i>nnn</i> or AWT<. <i>nnn</i>
Default Message	<i>Task ID</i> WAITING TIME PER DB REQUEST= <i>n.nnnn</i> SECS
Message Number	PAIDX119
Text Keyword	&ATAW

The average amount of time spent waiting for database requests has met or exceeded the exception threshold. The average waiting time is calculated as the total waiting time, divided by the number of database requests. This indicates the efficiency of the database requests. It includes buffer contention, database design, and physical Input and Output contention.

Active Task ECB Wait Exception

Exception Keywords	ECB>.nnn or ECB ID		
Default Message	Task ID WAITING ON ecb-code (ECB ID=ecb) ECB		
Message Number	PAIDX120		
Text Keyword	&ATEN		ECB code
	&ATEN		ECB ID

The task has been found to be waiting on the ECB ID specified in the exception definition. This may be used to monitor unusual wait conditions in the CV.

Refer to ["Active Task - ECB Wait Codes List" on page 186](#) for a list of the ECB IDs and their meanings.

Active Task Records Not Committed Exception

Exception Keywords	RRU>.nnn or RRU<.nnn
Default Message	<i>Task ID</i> RECS UPDATES, NOT COMMITTED= <i>nnn</i>
Message Number	PAIDX121
Text Keyword	&RURU

The number of records updated but not committed by the run unit have met or exceeded the exception threshold. The number of records updated between commits is usually controlled to limit the rollback of the run unit if it abends.

Active Task Input and Output Rate Exception

Exception Keywords	IOR>.nnn or IOR<.nnn
Default Message	<i>Task ID</i> Input and Output RATE= <i>nnn</i> PAGES/SECOND
Message Number	PAIDX122
Text Keyword	&ARIO

The Input and Output rate for the task meets or exceeds the exception threshold. PreAlert computes the Input and Output rate from the number of pages read or written since the previous PreAlert cycle. For tasks that started after the previous cycle, the Input and Output rate is measured from the beginning of the task.

For short tasks (transaction times less than one second), the Input and Output rate may appear large when, in fact, only a few Input and Outputs have been completed in a very short time. The Input and Output rate threshold should be combined with the transaction time threshold to avoid the Input and Output rate exception for these tasks.

Active Task CPU Rate Exception

Exception Keywords	CPU> <i>nnn</i> or CPU< <i>nnn</i>
Default Message	<i>Task ID</i> CPU UTILIZATION= <i>nnn.nn</i> %
Message Number	PAIDX123
Text Keyword	&ARTC

The CPU utilization for the task meets or exceeds the exception threshold. The CPU utilization represents the percentage of time (since the last PreAlert cycle) that the task was executing, using CPU time. The CPU time is measured on a per processor basis, meaning that a task stuck in a loop may show 100% CPU utilization.

A high CPU utilization threshold (CPU>50) is often combined, using AND logic, with a low database request rate threshold (DBX<1) to detect CPU loops. This will detect CPU loops within either the task or system code.

Active Task Database Request Rate Exception

Exception Keywords	DBX> <i>nnn</i> or DBX< <i>nnn</i>	
Default Message	<i>Task ID</i> DB REQUEST RATE= <i>nnn.nn</i> %	REQS/SEC
Message Number	PAIDX124	
Text Keyword	&ARDB	

The database request rate for the task meets or exceeds the exception threshold. PreAlert computes the database request rate from the number of database calls since the previous PreAlert cycle. For tasks that started after the previous cycle, the database request rate is measured from the beginning of the task.

For short tasks (transaction times less than one second), the database request rate may appear large when, in fact, only a few database requests have been completed in a very short time.

Active Task Record Request Rate Exception

Exception Keywords	RRR> <i>nnn</i> or RRR< <i>nnn</i>	
Default Message	<i>Task ID</i> RECORD REQUEST RATE= <i>nnn.nn</i> %	REQS/SEC
Message Number	PAIDX125	
Text Keyword	&ARRR	

The record request rate for the task meets or exceeds the exception threshold. A single database call by a task may generate multiple record requests when the CV has to process multiple records in order to retrieve the desired record. This is especially true for set processing and index databases.

PreAlert computes the record request rate from the number of record calls since the previous PreAlert cycle. For tasks that started after the previous cycle, the record request rate is measured from the beginning of the task.

A high record request rate (RRR>100), combined with a low database request rate (DBX<1), may be used to detect a database loop. That is a condition where a database set has been corrupted, resulting in an endless loop where the end-of-set record is never found.

Active Task Run Unit Journal Images Exception

Exception Keywords	RUJ> <i>nnn</i> or RUJ< <i>nnn</i>
Default Message	RU JOURNAL IMAGES= <i>nnn</i>
Message Number	PAIDX130
Text Keyword	&RUJI

The total number of journal images for the run unit meets or exceeds the exception threshold. This number includes both the before and the after images counts. This exception may be used to identify tasks that should include additional commits to reduce the number records current in the journal.

Active Task Ready and Waiting Exception

Exception Keywords	TWT=Y|N
Default Message	TASK READY AND WAITING FOR CPU
Exception Number	PAIDX131

The active task is ready and has not been dispatched since the last PreAlert sample. IDMS has marked the task as ready but has not dispatched the task to execute. Other tasks are being dispatched before this task.

This exception should be used with the delay keywords, TDL or DLY, to eliminate the occasional spikes where a task has become ready immediately before PreAlert monitors the IDMS-CV.

Active Task Pages Read per DB Call Ratio Exception

Exception Keywords	PDB> <i>nnn</i> or PDB< <i>nnn</i>
Default Message	PAGES READ PER DB CALL RATIO = <i>nnn.nn</i>
Exception Number	PAIDX132
Text Keyword	&ATPD

The ratio of pages read per DB call has net or exceeded the exception threshold. The ratio is calculated as the number of pages read divided by the number of database requests.

A high ratio may indicate these potential problems:

- A poor database design, where many pages are being read to locate a single record.
- Improper buffering where the intermediate pages should remain in a buffer before the target page is finally read.

IDMS Database Exception Analysis

PreAlert's IDMS Database Exception Analysis monitors the database areas for exceptions on Input and Output rate, request rate, percentage of reads found in buffer, record locks in the area, number of run units using the area, and the status of the area.

The analysis of each exception condition, Input and Output rate, request rate, etc., is controlled through a threshold keyword in a Database Exception Definition. Each exception definition may contain one or more of the exception threshold keywords, allowing for AND logic and exceptions based on a range of values.

A Database Exception Definition assigns a specific set of exception thresholds to a group of one or more database areas. To identify the database areas, a database area name mask is included with each exception definition.

A number of spare database exception definitions must be included when the exception level set is initially built (through the IDXINIT macro). The database exception definitions may be predefined with the IDXDBX macro, or may be dynamically modified using the IXVD line command. The IDXINIT and IDXDBX macros are described in ["IDMS Exception Analysis Batch Definition Facility" on page 476](#). The IXVD line command is described later in this section.

Database Exception Definition Selection

Database Exception Definitions are selected for each database area based upon the area name mask in the exception definition. Any number of exception definitions may be selected for each database area.

PreAlert selects the exception definitions based on the best fit value of the area name mask. The best fit value is based on the number of characters in the mask plus the position of each character [(asterisks (*) are not counted)]. AREA-NAME* has a better best fit value than AREA* since more characters were specified. If the same number of characters is specified, the characters at the beginning of the mask are weighted more heavily.

If multiple exception definitions have been selected for the database area and the highest exception definition has been terminated (SET=OFF), then all exception analysis will be suppressed for that area.

For IDMS 12.0 systems, exception definitions are selected for each database area based upon either the area name, segment name, or symbolic name for the area. A mask for either the area name, segment name, or symbolic name is in each exception definition. Only one mutually exclusive mask may be specified.

Regardless of which name is used, the exception definitions are selected by the best fit value of the mask. No preference is given to area names, segment names or symbolic names.

IXDD - Display IDMS Database Exception Definitions

The IXDD line command ([Figure 189](#)) displays IDMS Database Exception Definitions. The display defaults to all non-spare database exception definitions. Keywords may be used to select specific database exception definitions, either all active or all inactive database exception definitions.

Keyword	Function
EXA= <i>nnn</i>	Display specified database exception definitions
SET=ON	Display active database exception definitions
SET=OFF	Display inactive database exception definitions

Figure 189 • IXDD line command

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  22   3.29/SEC
IXAS
+   LVL=99           SYS=ON   TSK=ON   LOG=         MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=    0   MAX= 255
IXDD SET=ON
+   EXA=2   DNM=*                SET=ON   PRI=1   IOR>40   RRR>200
+   EXA=3   DNM=LONGTERM-HISTORY SET=ON   PRI=1   IOR>10

```

The IXDD line command displayed database exception definitions EXA=2 and EXA=3 in response to the SET=ON keyword. Exception definition EXA=2 has established a set of global thresholds for all database areas. Exception definition EXA=3 has set a lower Input and Output rate threshold for a specific database area.

IXVD - Vary IDMS Database Exception Definitions

The IXVD line command ([Figure 190 on page 390](#)) is used to activate or terminate the database exception definitions and to vary the options available in the exception definition. The EXA=*nnn* keyword is required to specify the exception definition number(s) to be modified. When multiple exception definitions are specified, the changes are applied to all specified exception definitions.

Keyword	Function
EXA= <i>nnn</i>	Exception Definition number
DNM= <i>mask</i>	Area Name Mask
SEG= <i>mask</i>	Segment Name Mask, IDMS 12.0 and up
SYM= <i>mask</i>	Symbolic Name Mask, IDMS 12.0 and up
SET=ON|OFF	Activate or terminate the exception definition
SPR=Y	Alter to spare definition

CONTROL OPTIONS - See ["IDMS Exception Analysis Control Options" on page 426](#) for further information.

Keyword	Function
TOD> <i>hhmm</i>	Time of Day greater than value
TOD< <i>hhmm</i>	Time of Day less than value
SYN=Y|N	Synchronize with statistics interval
TIN= <i>nnn</i>	Exception Time Interval
LIM= <i>nnn</i>	Exception Limit
TLM= <i>nnn</i>	Exception Time of Day Limit
LMX= <i>nnn</i>	Exception Limit-x
DLY= <i>nnn</i>	Exception Delay
TDL= <i>nnn</i>	Exception Time Delay
PRI= <i>nnn</i>	Exception Priority
SND= <u>N</u>|Y	Activate or terminate Terminal Sound Option
AND= <u>N</u>|Y	Request AND logic
SUP=A|E|<u>N</u>	Supersede Option

Keyword	Function
A	Always supersede lower definitions
E	Supersede only if exception occurs
N	Never supersede

EXCEPTION OPTIONS - See ["IDMS Database Exception Thresholds" on page 390](#) for further information.

Keyword	Function
OPS=xxx	Area Open Access Modes, IDMS 10.2 only
	S Shared Access
	E Exclusive Access
	P Protected Access
	* reset the exception
STA=x	Area Status, Offline
	O Area is Offline
	* reset the exception
WTS=N|Y	Run units waiting for area exception
SYS=nnn	Related System Exception Definition number
LOC>nnn	LOC<nnn
	Locks held for records in the area
RUO>nnn	RUO<nnn
	Run units with area open count, IDMS 10.2 only
RUS>nnn	RUS<nnn
	Run units with area in subschema count, IDMS 10.2 only
IOR>nnn	IOR<nnn
	Input and Output rate (per second)
RRR>nnn	RRR<nnn
	Record request rate (per second)
RFB>nnn	RFB<nnn
	Reads found in buffer percent
BUT>nnn	BUT<nnn
	Buffer utilization ratio
RFE>nnn	RFE<nnn
	Reads found in ESA dataspace or cache file percent, IDMS 14.0 and up
EUT>nnn	EUT<nnn
	ESA dataspace or cache file utilization ratio, IDMS 14.0 and up

Keyword		Function
RFS> <i>nnn</i>	RFS< <i>nnn</i>	Requests found in storage percent, IDMS 14.0 and up
SUT> <i>nnn</i>	SUT< <i>nnn</i>	Storage utilization ratio, IDMS 14.0 and up
IIO> <i>nnn</i>	IIO< <i>nnn</i>	Interval Input and Output rate (per second)
IRR> <i>nnn</i>	IRR< <i>nnn</i>	Interval record request rate (per second)
IRF> <i>nnn</i>	IRF< <i>nnn</i>	Interval reads found in buffer percent
IBU> <i>nnn</i>	IBU< <i>nnn</i>	Interval buffer utilization ratio
IRE> <i>nnn</i>	IRE< <i>nnn</i>	Interval reads found in ESA dataspace or cache file percent, IDMS 14.0 and up
IEU> <i>nnn</i>	IEU< <i>nnn</i>	Interval ESA dataspace or cache file utilization ratio, IDMS 14.0 and up
IRS> <i>nnn</i>	IRS< <i>nnn</i>	Interval reads found in storage, IDMS 14.0 and up
ISU> <i>nnn</i>	ISU< <i>nnn</i>	Interval storage utilization ratio, IDMS 14.0 and up

LOGGING OPTION - See ["IDMS Exception Analysis Logging Option" on page 434](#) for further information.

Keyword	Function
LOG= <i>xxx</i>	Specify Exception Logging option

ASG-SERVER FACILITY OPTION - See ["IDMS Exception Analysis ASG-SERVER FACILITY Option" on page 435](#) for further information.

Keyword	Function
ASF= <i>xxxx</i>	Specify four-character subsystem ID for the ASG-Server Facility

COMMAND OPTIONS - See ["IDMS Exception Analysis Command Options" on page 443](#) for further information.

Keyword	Function
CMD= <i>'command'</i>	Exception command, enclose in quotes
JOB= <i>member</i>	Member name for Batch Job option
CDL= <i>nnn</i>	Command delay through <i>nnn</i> cycles
CLM= <i>nnn</i>	Command limit to <i>nnn</i> commands

SCREEN OPTIONS - See ["IDMS Exception Analysis Screen Options" on page 431](#) for further information.

Keyword	Function
PRT= <u>N</u>|Y	Activate Screen print option
SCR= <i>screen name</i>	Screen name for Screen Chaining option
SLM= <i>nnn</i>	Screen Chaining Limit count
SDL= <i>nnn</i>	Screen Chaining Delay count
FRZ= <u>N</u>|Y	Request Freeze Frame for Screen Chaining

MESSAGE OPTIONS - See ["IDMS Exception Analysis Message Options" on page 437](#) for further information.

Keyword	Function
MSG= <i>'message'</i>	User defined Exception Message
CLR= <i>x</i>	Exception Message Color
USR= <i>'userid's'</i>	TSO user ID list
CON= <u>N</u>|Y	Send (WTO) message to MVS console
RTC= <i>route codes</i>	Console WTO Route Codes
DSC= <i>desc codes</i>	Console WTO Descriptor Codes
USO= <u>L</u>|N	User Send Option, LOGON or NOW

In [Figure 190](#), Database exception definition EXA=3 was established for a specific database area to monitor the Input and Output rate only.

Figure 190 • IXVD line command

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  22   3.29/SEC
IXAS
+   LVL=99          SYS=ON   TSK=ON   LOG=          MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=    0   MAX= 255

IXVD EXA=3, SET=ON, DNM=LONGTERM-HISTORY, IOR>10
+   EXA=3  DNM=LONGTERM-HISTORY  SET=ON  PRI=1  IOR>10

IXDD
+   EXA=1  DNM=DDL*                SET=OFF
+   EXA=2  DNM=*                   SET=ON   PRI=1  IOR>40  RRR>200
+   EXA=3  DNM=LONGTERM-HISTORY  SET=ON   PRI=1  IOR>10

```

IDMS Database Exception Thresholds

The following subsections describe the various IDMS Database Exception Thresholds.

Database Input and Output Rate Exception

Exception Keywords IOR>*nnn* or IOR<*nnn*

Default Message *area-name*, Input and Output RATE = *nnn.nn*

Message Number PAIDX201

Text Keyword &DBIR

The Input and Output rate for the database area meets or exceeds the exception threshold. The device may be able to support a limited Input and Output rate depending on the response time for the device(s) on which the area is residing. This may indicate a need for the area to be restructured. Also, when the Input and Output rate and the record request rate are approximately the same, the number of buffers available for the area may be insufficient.

Database Record Request Rate Exception

Exception Keywords	RRR> <i>nnn</i> or RRR< <i>nnn</i>
Default Message	<i>area-name</i> , REQUEST RATE = <i>nnn.nn</i>
Message Number	PAIDX202
Text Keyword	&DBRR

The record request rate for the database area meets or exceeds the exception threshold. This indicates that a contention problem may exist for the area, or the area has exceeded the design estimates. Also, when the area is sharing a buffer with other areas, it may be monopolizing the buffer, causing other areas to experience high Input and Output rates.

Database Reads Found in Buffer Exception

Exception Keywords	RFB> <i>nnn</i> or RFB< <i>nnn</i>	(percent)
Default Message	<i>area-name</i> , READS FOUND IN BUFFER = <i>nnn.nn</i> %	
Message Number	PAIDX203	
Text Keyword	&DBRP	

The percentage of reads found in the buffer meets or exceeds the exception threshold. When the percentage starts decreasing for an area, this typically indicates that pages in the area are becoming full and that the records are no longer being stored or clustered together on the target page.

Database Buffer Utilization Ratio Exception

Exception Keywords	BUT> <i>nnn</i> or BUT< <i>nnn</i>
Default Message	BUFFER UTIL RATIO = <i>nnn.nn</i>
Message Number	PAIDX211
Text Keyword	&DBUT

The buffer utilization ratio for the database area meets or exceeds the exception threshold. PreAlert computes the buffer utilization ratio as the total number of record requests divided by the number of pages read from the database. This amount is the ratio of database requests to pages read. A high value indicates good buffer utilization; a low value indicates poor buffer utilization.

The value used for this exception is computed from the total record requests and pages read count. This is the buffer utilization ratio for the area since the IDMS CV was initialized.

Database Reads Found in Cache/ESA Exception

Exception Keywords	RFE> <i>nnn</i> or RFE< <i>nnn</i>	(percent)
Default Message	CAHCE/ESA HITS= <i>nnn.nn</i> %	
Message Number	PAIDX216	
Text Keyword	&DBEP	
IDMS	14.0 and up	

The percentage of reads found in a cache file or an ESA dataspace meets or exceeds the exception threshold. The reads found in cache or ESA percentage are calculated as the percentage of record requests not found in an IDMS buffer that were found in either a cache file or an ESA dataspace. This is an indicator of how well non-IDMS storage medium (cache files or ESA dataspaces) is being used to prevent physical Input and Outputs.

Database Cache/ESA Utilization Ratio Exception

Exception Keywords	EUT> <i>nnn</i> or EUT< <i>nnn</i>
Default Message	CACHE/ESA UTIL RATIO = <i>nnn.nn</i>
Message Number	PAIDX217
Text Keyword	&DBEU
IDMS	14.0 and up

The cache/ESA utilization ratio for the area meets or exceeds the exception threshold. The cache/ESA utilization ratio is calculated as the ratio of record requests not found in an IDMS buffer to the number of physical reads performed. In a mathematical equation: total requests minus buffer hits divided by physical reads. This indicates how well non-IDMS storage medium (cache files and ESA dataspaces) is being used.

Database Reads Found in Storage Exception

Exception Keywords	RFS> <i>nnn</i> or RFS< <i>nnn</i>	(percent)
Default Message	STORAGE HITS = <i>nnn.nn</i> %	
Message Number	PAIDX218	
Text Keyword	&DBSP	
IDMS	14.0 and up	

The percentage of record requests that were found in storage (storage hits percentage) meets or exceeds the exception threshold. The storage hits percentage is calculated as the percentage of record requests found in any storage medium: IDMS buffers, cache files, or ESA dataspace. This is an overall indicator of how efficiently storage is being used to prevent physical reads.

Database Storage Utilization Ratio Exception

Exception Keywords	SUT> <i>nnn</i> or SUT< <i>nnn</i>
Default Message	STORAGE UTIL RATIO = <i>nnn.nn</i>
Message Number	PAIDX219
Text Keyword	&DBSU
IDMS	14.0 and up

The storage utilization ratio for the area meets or exceeds the exception threshold. The storage utilization ratio is calculated as the number of record requests divided by the number of physical reads. This indicates the overall efficiency of storage (IDMS buffers, cache files, and ESA dataspace) in preventing physical reads.

Database Interval Input and Output Rate Exception

Exception Keywords	IIO> <i>nnn</i> or IIO< <i>nnn</i>
Default Message	INTERVAL Input and Output RATIO = <i>nnn.nn</i>
Message Number	PAIDX212
Text Keyword	&DIIR

The interval Input and Output rate for the database area meets or exceeds the exception threshold and is the rate of Input and Outputs completed since the beginning of the current statistics interval. This provides a long-term indicator of how many Input and Outputs are done for the area.

Database Interval Record Request Rate Exception

Exception Keywords	IIR> <i>nnn</i> or IIR< <i>nnn</i>
Default Message	INTERVAL REC REQ RATE = <i>nnn.nn</i>
Message Number	PAIDX213
Text Keyword	&DIRR

The interval record request rate for the database area meets or exceeds the exception threshold. The interval record request rate is the rate of record requests since the beginning of the current statistics interval. This provides a long-term indicator of the demand for the area.

Database Interval Reads Found In Buffer Exception

Exception Keywords	IRF> <i>nnn</i> or IRF< <i>nnn</i>
Default Message	INTERVAL READS FOUND = <i>nnn.nn</i> %
Message Number	PAIDX214
Text Keyword	&DIRP

The interval reads found in buffer percent for the database area meets or exceeds the exception threshold. The interval reads found in buffer percent is the percentage of record requests found in a buffer since the beginning of the current statistics interval. A high percentage (greater than 80%) indicates that the majority of record requests are being found in a buffer; a low percentage (less than 50%) indicates that additional Input and Outputs are being done to satisfy record requests.

Database Interval Buffer Utilization Ratio Exception

Exception Keywords	IBU> <i>nnn</i> or IBU< <i>nnn</i>
Default Message	INTERVALBUFF UTIL = <i>nnn.nn</i>
Message Number	PAIDX215
Text Keyword	&DIUT

The interval buffer utilization ratio for the database area meets or exceeds the exception threshold. The interval buffer utilization ratio is the total number of record requests divided by the number of pages read from the database since the beginning of the current statistics interval. This is a measure of how well the database area is utilizing its buffers (the ratio of record requests to the number of physical reads).

The interval buffer utilization ratio exception may be used to automatically increase or decrease the number of buffers associated with the area. With a low ratio, the number of buffers should be increased. This should only be done when the interval paging rate is low. IDMS handles Input and Output very well, but not paging; it is better for IDMS to do Input and Output than suffer paging delays.

Database Interval Reads Found in Cache/ESA Exception

Exception Keywords	IRE> <i>nnn</i> or IRE< <i>nnn</i>	(percent)
Default Message	INTERVAL CACHE/ESA HITS = <i>nnn.nn</i> %	
Message Number	PAIDX220	
Text Keyword	&DIEP	
IDMS	14.0 and up	

The interval percentage of reads found in a cache file or an ESA dataspace meets or exceeds the exception threshold. The interval reads found in cache or ESA percentage are calculated as the percentage of record requests not found in an IDMS buffer that were found in either a cache file or an ESA dataspace. This is an indicator of how well non-IDMS storage medium (cache files or ESA dataspace) is being used to prevent physical Input and Outputs since the beginning of the current statistics interval.

Database Interval Cache/ESA Utilization Ratio Exception

Exception Keywords	IEU> <i>nnn</i> or IEU< <i>nnn</i>
Default Message	INTERVAL CACHE/ESA UTIL RATIO = <i>nnn.nn</i> %
Message Number	PAIDX221
Text Keyword	&DIEU
IDMS	14.0 and up

The interval cache/ESA utilization ratio for the area meets or exceeds the exception threshold. The interval cache/ESA utilization ratio is calculated as the ratio of record requests not found in an IDMS buffer to the number of physical reads performed since the beginning of the current statistics interval. In a mathematical equation: total requests minus buffer hits, divided by physical reads. This indicates how well non-IDMS storage medium (cache files and ESA dataspace) is being used.

Database Interval Reads Found in Storage Exception

Exception Keywords	IRS> <i>nnn</i> or IRS< <i>nnn</i> (percent)
Default Message	INTERVAL STORAGE HITS = <i>nnn.nn</i> %
Message Number	PAIDX222
Text Keyword	&DISP
IDMS	14.0 and up

The interval percentage of record requests that were found in storage (storage hits percentage) meets or exceeds the exception threshold. The interval storage hits percentage is calculated as the percentage of record requests found in any storage medium: IDMS buffers, cache files, or ESA dataspace. This is an overall indicator of how efficiently storage is being used to prevent physical reads since the beginning of the current statistics interval.

Database Interval Storage Utilization Ratio Exception

Exception Keywords	ISU> <i>nnn</i> or ISU< <i>nnn</i>
Default Message	INTERVAL STORAGE UTIL RATIO = <i>nnn.nn</i> %
Message Number	PAIDX223
Text Keyword	&DISU
IDMS	14.0 and up

The interval storage utilization ratio for the area meets or exceeds the exception threshold. The interval storage utilization ratio is calculated as the number of record requests divided by the number of physical reads. This indicates the overall efficiency of storage (IDMS buffers, cache files, and ESA dataspace) in preventing physical reads since the beginning of the current statistics interval.

Database Lock Count Exception

Exception Keywords	LOC> <i>nnn</i> or LOC< <i>nnn</i>
Default Message	<i>area-name</i> , TOTAL LOCKS = <i>nnn</i>
Message Number	PAIDX204
Text Keyword	&DBLK

The total number of records locked in the database area meets or exceeds the exception threshold. This exception helps to identify where locks are being held when an excessive number of L-term locks are used. The IDMS System Exception Analysis (LTL> keyword) may be used to monitor L-term locks.

This may also indicate that a run unit should have exclusive access to the area rather than just protected update access.

Database Open Access Mode Exception

Exception Keywords	OPS=S	Shared access
	OPS=E	Exclusive access
	OPS=P	Protected access
Default Message	<i>area-name</i>	OPEN ACCESS= <i>mode</i>
Message Number	PAIDX205	
Text Keyword	&DBOP	Open access mode
IDMS	10.2 only	

PreAlert monitors the area access mode for all run units having readied the area. The access mode for one or more run units matches the exception condition. This can be helpful in locating a run unit that should be using protected update access rather than exclusive update access.

Additionally, more than one access value can be specified. The OPS=EP keyword may be used to monitor database areas that should only be readied with shared access.

Database Run Unit Wait Exception

Exception Keywords	WTS=Y
Default Message	<i>area-name</i> ONE OR MORE RUN UNITS WAITING FOR AREA
Message Number	PAIDX206

This condition arises when a run unit has exclusive access to the database area for which other run units are waiting, or when the area is shared by multiple run units while another run unit is waiting for exclusive access to that area. This condition may indicate a contention problem for the area. Eliminate or control this area with exclusive access to prevent the contention.

Database Open Count Exception

Exception Keywords	RUO> <i>nnn</i> or RUO< <i>nnn</i>
Default Message	<i>area-name</i> <i>nnn</i> RUN UNITS WITH AREA OPEN
Message Number	PAIDX207
IDMS	10.2 only

The number of run units with the area open (ready) meets or exceeds the exception threshold. This uses the exception for the number of run units, with the area in their subschema, to locate oversized subschemas. Also, this may be used with the Input and Output and record request rate exceptions to watch for conditions where a small number of run units are concurrently and intensely using the area, but where a high Input and Output or record request rate for that area is acceptable.

Database Subschema Count Exception

Exception Keywords	RUS> <i>nnn</i> or RUS< <i>nnn</i>
Default Message	<i>area-name</i> , <i>nnn</i> RUN UNITS WITH AREA IN SUBSCHEMA
Message Number	PAIDX208
Text Keyword	&DBRS
IDMS	10.2 only

The number of run units with the database area included in their subschema meets or exceeds the exception threshold. This may indicate oversize subschemas when the number is much larger than the number of run units actually having the area open (ready). Reducing the subschema sizes will reduce storage pool and reentrant pool usage.

Database Area Offline Exception

Exception Keywords	STA> <i>nnn</i> or STA< <i>nnn</i>	Area offline
Default Message	<i>area-name</i>	OFFLINE
Message Number	PAIDX209	
Text Keyword	&DBST	Offline status

The database area is offline. A generic database (DNM=*) exception definition may be used to monitor the status of all database areas. For areas that are normally offline, additional exception definitions should specify DNM=*area-name* and SET=OFF. This will suppress exception analysis for those database areas.

Database Related System Exception

Exception Keywords	SYS= <i>nnn</i>
Default Message	<i>area-name</i> SYSTEM EXCEPTION (<i>Snnn</i>) OCCURED
Message Number	PAIDX210
Text Keyword	&SYSN

The system exception definition indicated has occurred. This may be used to include logic where a system exception must exist so that the database exception can be examined.

IDMS Buffer Exception Analysis

PreAlert monitors the IDMS buffers for exceptions on Input and Output rate, request rate, and the percentage of reads found in the buffer. The analysis of each condition is controlled through a threshold keyword in a Buffer Exception Definition. Each exception definition may contain one or more of the exception threshold keywords, allowing for AND logic and exceptions based on a range of values.

A Buffer Exception Definition assigns a specific set of exception thresholds to a group of one or more buffers. To identify the buffers, a buffer name mask is included with each exception definition.

A number of spare buffer exception definitions must be included when the exception level set is initially built (through the IDXINIT macro). The buffer exception definitions may be predefined with the IDXBFFR macro or may be dynamically modified using the IXVB line command. The IDXINIT and IDXBFFR macros are described in ["IDMS Exception Analysis Batch Definition Facility" on page 476](#). The IXVB line command is described later in this section.

Buffer Exception Definition Selection

Buffer Exception Definitions are selected for each buffer based upon the buffer name mask in the exception definition. Select any number of exception definitions for each buffer.

PreAlert selects the exception definitions based upon the best fit value of the buffer name mask. The best fit value is based upon the number of characters in the mask plus the position of each character (asterisks (*) are not counted). For example, BUFFER-NAME* has a better best fit value than BUFFER* since more characters were specified. If the same number of characters is specified, the characters at the beginning of the mask are weighted more heavily.

If multiple exception definitions have been selected for the buffer, and the highest exception definition has been terminated (SET=OFF), then all exception analysis will be suppressed for that buffer.

IXDB - Display IDMS Buffer Exception Definitions

The IXDB line command displays the IDMS Buffer Exception Definitions. The display defaults to all non-spare buffer exception definitions. Keywords may be used to select specific buffer exception definitions or all active or all inactive buffer exception definitions.

Keyword	Function
EXA= <i>nnn</i>	Display specified buffer exception definitions
SET=ON	Display active buffer exception definitions
SET=OFF	Display inactive buffer exception definitions

Figure 191 • IXDB line command

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  22   3.29/SEC
IXAS
+   LVL=99          SYS=ON   TSK=ON   LOG=          MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=    0   MAX= 255
IXDB
+   EXA=1   BNM=DDL*          SET=OFF
+   EXA=2   BNM=*            SET=ON   IOR>100   RRR>500

```

In [Figure 191](#), the IXDB line command displayed buffer exception definitions EXA=1 and EXA=2. Exception definition EXA=1 will suppress exception analysis for all DDL* buffers. Exception definition EXA=2 has established a set of global thresholds for all buffers.

IXVB - Vary IDMS Buffer Exception Definitions

The IXVB line command is used to activate or terminate the buffer exception definitions and to vary the options available in the exception definition. The EXA=*nnn* keyword is required to specify the exception definition number(s) to be varied. When multiple exception definitions are specified, any other keywords will be applied to all exception definitions specified.

Keyword	Function
EXA= <i>nnn</i>	Buffer Exception Definition number
BNM= <i>mask</i>	Buffer Name Mask
SET=ON|OFF	Activate or terminate the exception definition
SPR= <u>N</u>|Y	Alter to a spare definition

CONTROL OPTIONS - See ["IDMS Exception Analysis Control Options" on page 426](#) for further information.

Keyword	Function
TOD> <i>hhmm</i>	Time of Day greater than value
TOD< <i>hhmm</i>	Time of Day less than value
SYN=Y|N	Synchronize with statistics interval
TIN= <i>nnn</i>	Exception Time Interval
LIM= <i>nnn</i>	Exception Limit
TLM= <i>nnn</i>	Exception Time of Day Limit
LMX= <i>nnn</i>	Exception Limit-x
DLY= <i>nnn</i>	Exception Delay
TDL= <i>nnn</i>	Exception Time Delay
PRI= <i>nnn</i>	Exception Priority
SND= <u>N</u>|Y	Activate or terminate Terminal Sound Option
AND= <u>N</u>|Y	Request AND logic
SUP=A|E|<u>N</u>	Supersede Option
A	Always supersede lower definitions
E	Supersede only if exception occurs
N	Never supersede

EXCEPTION OPTIONS - See ["IDMS Buffer Exception Thresholds" on page 406](#) for further information.

Keyword		Function
SYS= <i>nnn</i>		Related System Exception Definition number
IOR> <i>nnn</i>	IOR< <i>nnn</i>	Input and Output rate (per second)
RRR> <i>nnn</i>	RRR< <i>nnn</i>	Record request rate (per second)
RFB> <i>nnn</i>	RFB< <i>nnn</i>	Reads found in buffer percent
BUT> <i>nnn</i>	BUT< <i>nnn</i>	Buffer utilization Ratio
RFC> <i>nnn</i>	RFC< <i>nnn</i>	Reads found in cache percent, IDMS 14.0 and up
CUT> <i>nnn</i>	CUT< <i>nnn</i>	Cache utilization ratio, IDMS 14.0 and up
IIO> <i>nnn</i>	IIO< <i>nnn</i>	Interval Input and Output rate (per second)
IRR> <i>nnn</i>	IRR< <i>nnn</i>	Interval record request rate (per second)
IRF> <i>nnn</i>	IRF< <i>nnn</i>	Interval reads found in buffer percent
IBU> <i>nnn</i>	IBU< <i>nnn</i>	Interval buffer utilization ratio
IRC> <i>nnn</i>	IRC< <i>nnn</i>	Interval reads found in cache percent, IDMS 14.0 and up
ICU> <i>nnn</i>	ICU< <i>nnn</i>	Interval cache utilization ratio, IDMS 14.0 and up
BWC> <i>nnn</i>	BWC< <i>nnn</i>	Buffer wait count
IBW> <i>nnn</i>	IBW< <i>nnn</i>	Interval buffer wait count

LOGGING OPTION - See ["IDMS Exception Analysis Logging Option" on page 434](#) for further information.

Keyword	Function
LOG= <i>xxx</i>	Specify Exception Logging option

ASG-SERVER FACILITY OPTION - See ["IDMS Exception Analysis ASG-SERVER FACILITY Option" on page 435](#) for further information.

Keyword	Function
ASF= <i>xxxx</i>	Specify four-character subsystem ID for the ASG-Server Facility

COMMAND OPTIONS - See ["IDMS Exception Analysis Command Options" on page 443](#) for further information.

Keyword	Function
CMD= <i>'command'</i>	Exception command (enclosed in single quotes ('))
JOB= <i>member</i>	Member name for Batch Job option
CDL= <i>nnn</i>	Command delay through <i>nnn</i> cycles
CLM= <i>nnn</i>	Command limit to <i>nnn</i> commands

SCREEN OPTIONS - See ["IDMS Exception Analysis Screen Options" on page 431](#) for further information.

Keyword	Function
PRT= <u>N</u>|Y	Activate Screen print option
SCR= <i>screen name</i>	Screen name for Screen Chaining option
SLM= <i>nnn</i>	Screen Chaining Limit count
SDL= <i>nnn</i>	Screen Chaining Delay count
FRZ= <u>N</u>|Y	Request Freeze Frame for Screen Chaining

MESSAGE OPTIONS - See ["IDMS Exception Analysis Message Options" on page 437](#) for further information.

Keyword	Function
MSG='message'	User defined Exception Message [enclosed in single quotes (')]]
CLR=x	Exception Message Color
USR='userid's'	TSO user ID list (enclosed in single quotes ('))
CON=N|Y	Send (WTO) message to MVS console
RTC=(route codes)	Console WTO Route Codes
DSC=(desc codes)	Console WTO Descriptor Codes
USO=L|N	User Send option, LOGON or NOW

Figure 192 • IXVB line command

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  22    3.29/SEC
IXAS
+   LVL=99          SYS=ON   TSK=ON   LOG=      MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=      0   MAX= 255

IXVB EXA=3, SET=ON, BNM=MFC3-4674-BUFFER, IOR>40, SUP=A
+   EXA=3   BNM=MFC3-4674-BUFFER   SET=ON   SUP=A   IOR>40

IXDB
+   EXA=1   BNM=DDL*                SET=OFF
+   EXA=2   BNM=*                   SET=ON   IOR>100   RRR>500
+   EXA=3   BNM=MFC3-4674-BUFFER   SET=ON   SUP=A   IOR>40

```

[Figure 192](#) shows buffer exception definition EXA=3 established to specify a lower Input and Output rate threshold for the buffer. Although exception definition EXA=2 will also be selected for the MFC3-4674-BUFFER, it will never be used since exception definition EXA=3 always supersedes it.

IDMS Buffer Exception Thresholds

The following subsections describe the various IDMS Buffer Exception Thresholds.

Buffer Input and Output Rate Exception

Exception Keywords	IOR> <i>nnn</i> or IOR< <i>nnn</i>
Default Message	<i>buffer-name</i> Input and Output RATE= <i>nnn.nn</i>
Message Number	PAIDX301
Text Keyword	&BFIR

The Input and Output rate for the buffer meets or exceeds the exception threshold. When a buffer is used mainly for read access and minimal write activity, this may indicate a need for more buffers.

Buffer Record Request Rate Exception

Exception Keywords	RRR> <i>nnn</i> or RRR< <i>nnn</i>
Default Message	<i>buffer-name</i> REQUEST RATE= <i>nnn.nn</i>
Message Number	PAIDX302
Text Keyword	&BFRR

The record request rate for the buffer meets or exceeds the exception threshold. Typically, this is used in stress testing to validate the expected amount of database activity.

Buffer Reads Found in Buffer Exception

Exception Keywords	RFB> <i>nnn</i> or RFB< <i>nnn</i>
Default Message	<i>buffer-name</i> READS FOUND IN BUFFER= <i>nnn.nn</i> %
Message Number	PAIDX303
Text Keyword	&BFRP

The percentage of reads found in the buffer meets or exceeds the exception threshold. This is a good indication of database design efficiency in that the record sets are being clustered on the target page. When the percentage of reads for an area starts decreasing, this typically indicates that pages in the area are becoming full and that the records are no longer being stored or clustered together on the target page.

Buffer Utilization Ratio Exception

Exception Keywords	BUT> <i>nnn</i> or BUT< <i>nnn</i>
Default Message	BUFFER UTIL RATIO= <i>nnn.nn</i>
Message Number	PAIDX305
Text Keyword	&BFUT

The utilization ratio for the buffer area meets or exceeds the exception threshold. PreAlert computes the buffer utilization ratio as the total number of record requests divided by the number of pages read into the buffer. This amount is the ratio of database requests to pages read. A high value indicates good buffer utilization; a low value indicates poor buffer utilization.

The value used for this exception is computed from the total record requests and pages read count. This is the utilization ratio for the buffer since the IDMS CV was initialized.

Buffer Reads Found in Cache Exception

Exception Keywords	RFC> <i>nnn</i> or RFC< <i>nnn</i>
Default Message	CACHE HITS= <i>nnn.nn</i> %
Message Number	PAIDX312
Text Keyword	&BFRC
IDMS	14.0 and up

The percentage of reads found in cache meets or exceeds the exception threshold. The reads found in cache are calculated as the percentage of record requests not found in an IDMS buffer that were found in a cache file. This represents the long-term efficiency of the cache file.

Buffer Cache Utilization Ratio Exception

Exception Keywords	CUT> <i>nnn</i> or CUT< <i>nnn</i>
Default Message	CACHE UTIL RATIO= <i>nnn.nn</i>
Message Number	PAIDX313
Text Keyword	&BFCU
IDMS	14.0 and up

The cache utilization ratio for the buffer meets or exceeds the exception threshold. The cache utilization ratio is the ratio of record requests not found in an IDMS buffer to the number of physical reads. A high value indicates good cache utilization; a low value indicates poor cache utilization.

Buffer Interval Input and Output Rate Exception

Exception Keywords	IIO> <i>nnn</i> or IIO< <i>nnn</i>
Default Message	INTERVAL Input and Output RATE= <i>nnn.nn</i>
Message Number	PAIDX306
Text Keyword	&BIIR

The interval Input and Output rate for the buffer meets or exceeds the exception threshold. The interval Input and Output rate is the rate of Input and Outputs completed since the beginning of the current statistics interval. This provides a long-term indicator of how many Input and Outputs are done through the buffer.

Buffer Interval Record Request Rate Exception

Exception Keywords	IRR> <i>nnn</i> or IRR< <i>nnn</i>
Default Message	INTERVAL REC REQ RATE= <i>nnn.nn</i>
Message Number	PAIDX307
Text Keyword	&BIRR

The interval record request rate for the buffer meets or exceeds the exception threshold. The interval record request rate is rate of record requests since the beginning of the current statistics interval. This provides a long-term indicator of the demand on the buffer.

Buffer Interval Reads Found In Buffer Exception

Exception Keywords	IRF> <i>nnn</i> or IRF< <i>nnn</i>
Default Message	INTERVAL READS FOUND= <i>nnn.nn</i> %
Message Number	PAIDX308
Text Keyword	&BIRP

The interval reads found in buffer percent for the buffer meets or exceeds the exception threshold. The interval reads found in buffer percent is the percentage of record requests found in the buffer since the beginning of the current statistics interval. A high percentage (greater than 80 percent) indicates that the majority of record requests are being found in the buffer; a low percentage (less than 50 percent) indicates that additional Input and Outputs are being done to satisfy record requests.

Buffer Interval Buffer Utilization Ratio Exception

Exception Keywords	IBU> <i>nnn</i> or IBU< <i>nnn</i>
Default Message	INTERVAL BUFF UTIL= <i>nnn.nn</i>
Message Number	PAIDX309
Text Keyword	&BIUT

The interval buffer utilization ratio for the buffer meets or exceeds the exception threshold. The interval buffer utilization ratio is the total number of record requests divided by the number of pages read through the buffer since the beginning of the current statistics interval. This is a measure of how well the buffer is being utilized, the ratio of record requests to the number of physical reads.

The interval buffer utilization ratio exception may be used to automatically increase or decrease the number of buffers. With a low ratio, the number of buffers should be increased. This should only be done when the interval paging rate is low. IDMS handles Input and Output very well, but not paging; it is better for IDMS to do Input and Output than suffer paging delays.

Buffer Interval Reads Found in Cache Exception

Exception Keywords	IRC> <i>nnn</i> or IRC< <i>nnn</i>
Default Message	INTERVAL CACHE HITS= <i>nnn.nn</i> %
Message Number	PAIDX314
Text Keyword	&BICP
IDMS	14.0 and up

The interval percentage of reads found in cache meets or exceeds the exception threshold. The interval reads found in cache are calculated as the percentage of record requests not found in an IDMS buffer that were found in a cache file since the beginning of the current statistics interval. This represents the efficiency of the cache file during the current statistics interval.

Buffer Interval Cache Utilization Ratio Exception

Exception Keywords	ICU> <i>nnn</i> or ICU< <i>nnn</i>
Default Message	INTERVAL CACHE UTIL RATIO = <i>nnn.nn</i>
Message Number	PAIDX315
Text Keyword	&BICU
IDMS	14.0 and up

The interval cache utilization ratio for the buffer meets or exceeds the exception threshold. The interval cache utilization ratio is the ratio of record requests not found in an IDMS buffer to the number of physical reads since the beginning of the current statistics interval. A high value indicates good cache utilization; a low value indicates poor cache utilization.

Buffer Wait Count Exception

Exception Keywords	BWC> <i>nnn</i> or BWC< <i>nnn</i>
Default Message	<i>nnn</i> BUFFER WAITS OCCURRED
Message Number	PAIDX310
Text Keyword	&BFWC

During the last PreAlert sample, the number of waits for the buffer met or exceeded the exception threshold. This measurement indicates the number of times any task waited for the buffer. This does not mean that an active task is currently waiting for the buffer, only that some buffer waits have occurred during the last PreAlert sample.

Buffer Interval Wait Count Exception

Exception Keywords	IBW> <i>nnn</i> or IBW< <i>nnn</i>
Default Message	INTERVAL BUFFER WAIT COUNT = <i>nnnn</i>
Message Number	PAIDX310
Text Keyword	&BIWC

The interval buffer wait count meets or exceeds the exception threshold. The interval buffer wait count is the number of times any active task had to wait for the buffer during the current statistics interval.

Buffer Related System Exception

Exception Keywords	SYS= <i>nnn</i>
Default Message	<i>area-name</i> , SYSTEM EXCEPTION (S <i>nnn</i>) OCCURRED
Message Number	PAIDX304
Text Keyword	&SYSN

The system exception definition indicated has occurred. This may be used to include logic where a system exception must exist so that the buffer exception will be examined.

IDMS File Exception Analysis

IDMS File Exception Analysis is available for use with IDMS 14.0 and up. It is not supported for lower levels of IDMS.

PreAlert monitors the IDMS file definitions for exceptions on Input and Output rate, request rate, percentage of reads found in IDMS buffers, cache files or dataspace, and buffer utilization ratios. The analysis of each condition is controlled through a threshold keyword in a File Exception Definition. Each exception definition may contain one or more of the exception threshold keywords, allowing for AND logic and exception based on a range of values.

A File Exception Definition assigns a specific set of exception thresholds to a group of one or more files. To identify the files, a file name mask is included with each exception definition.

A number of spare file exception definitions must be included when the exception level set is initially built (through the IDXINIT macro). The file exception definitions may be predefined with the IDXFILE macro, or may be dynamically modified using the IXVF line command. The IDXINIT and IDXFILE macros are described in ["IDMS Exception Analysis Batch Definition Facility" on page 476](#). The IXVF line command is described later in this section.

File Exception Definition Selection

File Exception Definitions are selected for each file based upon the file name mask in the exception definition. Any number of exception definitions may be selected for each file.

PreAlert selects the exception definitions based upon the best fit value of the file name mask. The best fit value is based upon the number of characters in the mask plus the position of each character [asterisks (*) are not counted]. For example, FILE-NAME* has a better best fit value than FILE* since more characters were specified. If the same number of characters is specified, the characters at the beginning of the mask are weighted more heavily.

If multiple exception definitions have been selected for the file, and the highest exception definition (by best fit value) has been terminated (SET=OFF), then all exception analysis will be suppressed for that file.

IXDF - Display IDMS File Exception Definitions

The IXDF line command displays the IDMS File Exception Definitions. The display defaults to all non-spare file exception definitions. You can use keywords to select specific file exception definitions or all active or all inactive file exception definitions.

Keyword	Function
EXA= <i>nnn</i>	Display specified file exception definitions
SET=ON	Display active file exception definitions
SET=OFF	Display inactive file exception definitions

Figure 193 • IXDF line command

```

IDMS (jobname)      V140  IDMS INTERFACE ACTIVE  TASKS:  14    .00/SEC
IXAS
+   LVL=99          SYS=OFF  TSK=OFF  LOG=      MSG=Y ALWAYS DISPLAY
+                   DBX=OFF  BFR=OFF  MIN=      0  MAX= 255
+                   FCX=ON
IXDF
+   EXA=1  FNM=SYS*  SET=OFF
+   EXA=2  FNM=SQL*  SET=ON  LIM=2  PRI=1  IBU<20

```

In [Figure 193](#), the IXDF line command displays file exception definitions EXA=1 and EXA=2. Exception definition EXA=1 will suppress exception analysis for all SYS* files. Exception definition EXA=2 establishes a threshold for the SQL* files.

IXVF - Vary IDMS File Exception Definition

The IXVF line command is used to activate or terminate the file exception definitions and to vary the options available in the exception definition. The EXA= keyword is required to specify the exception definition number(s) to be varied. When you specify multiple exception definitions, any other keywords will be applied to all exception definitions specified.

Keyword	Function
EXA= <i>nnn</i>	File exception definition number
FNM= <i>mask</i>	File name mask
SET= <u>ON</u>|OFF	Activate or terminate the exception definition
SPR= <u>N</u>|Y	Alter to spare definition

CONTROL OPTIONS - See "[IDMS Exception Analysis Control Options](#)" on page 426 for further information.

Keyword	Function
TOD> <i>hhmm</i>	Time of Day greater than value
TOD< <i>hhmm</i>	Time of Day less than value
SYN= <u>N</u>|Y	Synchronize with statistics interval
TIN= <i>nnn</i>	Exception time interval
LIM= <i>nnn</i>	Exception limit
TLM= <i>nnn</i>	Exception time of day limit
LMX= <i>nnn</i>	Exception limit-x
DLY= <i>nnn</i>	Exception delay
TDL= <i>nnn</i>	Exception time delay
PRI= <i>nnn</i>	Exception priority
SND= <u>N</u>|Y	Activate or terminate terminal sound option
AND= <u>N</u>|Y	Request and logic
SUP=A|E|<u>N</u>	Supersede option
A	Always supersede lower definitions
E	Supersede only if exception occurs
N	Never supersede

EXCEPTION OPTIONS - See ["IDMS File Exception Analysis Thresholds" on page 418](#) for further information.

Keywords		Function
SYS= <i>nnn</i>		Related system exception
IOR> <i>nnn</i>	IOR< <i>nnn</i>	Input and Output rate (per second)
RRR> <i>nnn</i>	RRR< <i>nnn</i>	Record request rate (per second)
RFB> <i>nnn</i>	RFB< <i>nnn</i>	Reads found in buffer percent
BUT> <i>nnn</i>	BUT< <i>nnn</i>	Buffer utilization ratio
RFE> <i>nnn</i>	RFE< <i>nnn</i>	Reads found in cache or dataspace percent
EUT> <i>nnn</i>	EUT< <i>nnn</i>	Cache or dataspace utilization ratio
RFS> <i>nnn</i>	RFS< <i>nnn</i>	Reads found in storage percent
SUT> <i>nnn</i>	SUT< <i>nnn</i>	Storage utilization ratio
IIO> <i>nnn</i>	IIO< <i>nnn</i>	Interval Input and Output rate (per second)
IRR> <i>nnn</i>	IRR< <i>nnn</i>	Interval record request rate
IRF> <i>nnn</i>	IRF< <i>nnn</i>	Interval reads found in buffer percent
IBU> <i>nnn</i>	IBU< <i>nnn</i>	Interval buffer utilization ratio
IRE> <i>nnn</i>	IRE< <i>nnn</i>	Interval reads found in cache or dataspace percent
IEU> <i>nnn</i>	IEU< <i>nnn</i>	Interval cache or dataspace utilization ratio
IRS> <i>nnn</i>	IRS< <i>nnn</i>	Interval reads found in storage percent
ISU> <i>nnn</i>	ISU< <i>nnn</i>	Interval storage utilization ratio

LOGGING OPTIONS - See ["IDMS Exception Analysis Logging Option" on page 434](#) for further information.

Keyword	Function
LOG= <i>xxx</i>	Specify exception logging options

ASG-SERVER FACILITY OPTION - See ["IDMS Exception Analysis ASG-SERVER FACILITY Option" on page 435](#) for further information.

Keyword	Function
ASF= <i>xxxx</i>	Specify four-character subsystem ID for ASG-Server Facility

COMMAND OPTIONS - See ["IDMS Exception Analysis Control Options" on page 426](#) for further information.

Keyword	Function
CMD= <i>'command'</i>	Exception command, enclose in quotes
JOB= <i>member</i>	Member name for batch job option
CDL= <i>nnn</i>	Command delay count
CLM= <i>nnn</i>	Command limit count

SCREEN OPTIONS - See ["IDMS Exception Analysis Screen Options" on page 431](#) for further information.

Keyword	Function
PRT= <u>N</u> /Y	Request screen print option
SCR= <i>screen name</i>	Screen name for screen chaining option
SLM= <i>nnn</i>	Screen chaining limit count
SDL= <i>nnn</i>	Screen chaining delay count
FRZ= <u>N</u> /Y	Request freeze frame for screen chaining

MESSAGE OPTIONS - See ["IDMS Exception Analysis Message Options" on page 437](#) for further information.

Keyword	Function
MSG= <i>message</i>	User defined exception message
CLR= <i>x</i>	Exception message color
USR= <i>userid</i> s	TSO user ID list
CON= <u>N</u>|Y	Send (WTO) message to MVS console
RTC= <i>route codes</i>	Console WTO route codes
DSC= <i>desc codes</i>	Console WTO descriptor codes
USO= <u>L</u>|N	User send option, LOGON or NOW

Figure 194 • IXVF line command

```

IDMS (jobname)      V140  IDMS INTERFACE ACTIVE  TASKS:  14    .00/SEC
IXAS
+   LVL=99          SYS=OFF  TSK=OFF  LOG=      MSG=Y ALWAYS DISPLAY
+                   DBX=OFF  BFR=OFF  MIN=    0  MAX= 255
+                   FCX=ON
IXVF EXA=3,FNM=SQLDEMO.EMPLDEMO,SET=ON,IIR>5,SYN=Y
+   EXA=3  FNM=SQLDEMO.EMPLDEMO  SET=ON  PRI=1  SYN=Y  IIR>5
IXDF
+   EXA=1  FNM=SYS*   SET=OFF
+   EXA=2  FNM=SQL*   SET=ON  LIM=2  PRI=1  IBU<20
+   EXA=3  FNM=SQLDEMO.EMPLDEMO  SET=ON  PRI=1  SYN=Y  IIR>5

```

In [Figure 194](#), file exception definition EXA=3 was established to monitor the interval Input and Output rate for a specific file.

IDMS File Exception Analysis Thresholds

File Input and Output Rate Exception

Exception Keywords	IOR> <i>nnn</i> or IOR< <i>nnn</i>
Default Message	I/O RATE= <i>nnn.nn</i>
Message Number	PAIDX401
Text Keyword	&FCIR
IDMS	14.0 and up

The Input and Output rate for the file meets or exceeds the exception threshold. When the Input and Output rate and the record request rate for a file are approximately the same, the number of buffers available for the file may be insufficient. This may indicate that the Input and Output rate file may be reaching the maximum for the device where the file resides. A device may only be able to support a limited Input and Output rate depending upon its response time. That is, the longer the response time, the lower the Input and Output rate the device can support.

File Record Request Rate Exception

Exception Keywords	RRR> <i>nnn</i> or RRR< <i>nnn</i>
Default Message	REQUEST RATE = <i>nnn.nn</i>
Message Number	PAIDX402
Text Keyword	&FCRR
IDMS	14.0 and up

The record request rate for the file meets or exceeds the exception threshold. This indicates that a contention problem may exist for the file, or the file has exceeded the design estimates. Also, when the file is sharing a buffer with other files, it may be monopolizing the buffer and causing other files to experience high Input and Output rates.

File Reads Found in Buffer Exception

Exception Keywords	RFB> <i>nnn</i> or RFB< <i>nnn</i>
Default Message	READS FOUND IN BUFFER = <i>nnn.nn</i> %
Message Number	PAIDX403
Text Keyword	&FCRP
IDMS	14.0 and up

The percentage of reads found in the buffer meets or exceeds the exception threshold. When the percentage starts decreasing for a file, this usually indicates that the pages in the file are becoming full and that the records are no longer being stored or clustered together on the target page. Also, when multiple files share a buffer, this may indicate that some other file is using more of the buffer. Assigning the files to separate buffers may alleviate the problem.

File Buffer Utilization Ratio

Exception Keywords	BUT> <i>nnn</i> or BUT< <i>nnn</i>
Default Message	READS UTIL RATIO = <i>nnn.nn</i>
Message Number	PAIDX405
Text Keyword	&FCUT
IDMS	14.0 and up

The buffer utilization ratio for the file meets or exceeds the exception threshold. PreAlert computes the buffer utilization ratio as the total number of record requests divided by the number of pages read from the file (not found in a buffer) since the IDMS CV was initialized. This amount is the ratio of database requests to pages read. A high value indicates good buffer utilization; a low value indicates poor buffer utilization.

File Reads Found in Cache/ESA Exception

Exception Keywords	RFE> <i>nnn</i> or RFE< <i>nnn</i> (percent)
Default Message	CACHE/ESA HITS = <i>nnn.nn</i> %
Message Number	PAIDX410
Text Keyword	&FCEP
IDMS	14.0 and up

The percentage of reads found in a cache file or an ESA dataspace meets or exceeds the exception threshold. The reads found in cache or ESA percentage are calculated as the percentage of record requests not found in an IDMS buffer that were found in either a cache file or an ESA dataspace. This is an indicator of how well non-IDMS storage medium (cache files or ESA dataspaces) is being used to prevent physical Input and Outputs.

File Cache/ESA Utilization Ratio Exception

Exception Keywords	EUT> <i>nnn</i> or EUT< <i>nnn</i> (percent)
Default Message	CACHE/ESA UTIL RATIO = <i>nnn.nn</i>
Message Number	PAIDX411
Text Keyword	&FCEU
IDMS	14.0 and up

The cache/ESA utilization ratio for the file meets or exceeds the exception threshold. The cache/ESA utilization ratio is calculated as the ratio of record requests not found in an IDMS buffer to the number of physical reads performed. In a mathematical equation: total requests minus buffer hits, divided by physical reads. This indicates how well non-IDMS storage medium (cache files and ESA dataspaces) is being used.

File Reads Found in Storage Exception

Exception Keywords	RFS> <i>nnn</i> or RFS< <i>nnn</i> (percent)
Default Message	STORAGE HITS = <i>nnn.nn</i> %
Message Number	PAIDX412
Text Keyword	&FCSP
IDMS	14.0 and up

The percentage of record requests that were found in storage (storage hits percentage) meets or exceeds the exception threshold. The storage hits percentage is calculated as the percentage of record requests found in any storage medium: IDMS buffers, cache files, or ESA dataspace. This is an overall indicator of how efficiently storage is being used to prevent physical reads.

File Storage Utilization Ratio Exception

Exception Keywords	SUT> <i>nnn</i> or SUT< <i>nnn</i> (percent)
Default Message	STORAGE UTIL RATIO = <i>nnn.nn</i> %
Message Number	PAIDX413
Text Keyword	&FCSU
IDMS	14.0 and up

The storage utilization ratio for the file meets or exceeds the exception threshold. The storage utilization ratio is calculated as the number of record requests divided by the number of physical reads. This indicates the overall efficiency of storage (IDMS buffers, cache files, and ESA dataspace) in preventing physical reads.

File Interval Input and Output Rate Exception

Exception Keywords	IIO> <i>nnn</i> or IIO< <i>nnn</i>
Default Message	INTERVAL I/O RATE = <i>nnn.nn</i>
Message Number	PAIDX406
Text Keyword	&FIIR
IDMS	14.0 and up

The interval Input and Output rate for the file meets or exceeds the exception threshold. The interval Input and Output rate is computed from the number of Input and Outputs completed since the beginning of the current statistics interval. This provides a long-term indicator of how many Input and Outputs are done for the file.

File Interval Record Request Rate Exception

Exception Keywords	IRR> <i>nnn</i> or IRR< <i>nnn</i>
Default Message	INTERVAL REC REQ RATE = <i>nnn.nn</i>
Message Number	PAIDX407
Text Keyword	&FIRR
IDMS	14.0 and up

The interval record request rate for the file meets or exceeds the exception threshold. The interval record request is computed from the number of record requests since the beginning of the current statistics interval. This provides a long-term indicator of the demand for the file.

File Interval Reads Found in Buffer Exception

Exception Keywords	IRF> <i>nnn</i> or IRF< <i>nnn</i>
Default Message	INTERVAL READS FOUND= <i>nnn.nn</i> %
Message Number	PAIDX408
Text Keyword	&FIRF
IDMS	14.0 and up

The interval reads found in the buffer percentage for the file meet or exceed the exception threshold. The interval reads found in buffer percent are the percentage of records found in an IDMS buffer since the beginning of the current statistics interval. This provides a long-term indicator of how efficiently the buffer is being used.

File Interval Buffer Utilization Ratio Exception

Exception Keywords	IBU> <i>nnn</i> or IBU< <i>nnn</i>
Default Message	INTERVAL BUFF UTIL= <i>nnn.nn</i>
Message Number	PAIDX409
Text Keyword	&FIUT
IDMS	14.0 and up

The interval buffer utilization ratio for the file meets or exceeds the exception threshold. The interval buffer utilization ratio is the total number of record requests divided by the number of pages read from the file (not found in a buffer) since the beginning of the current statistics interval. This is a measure of how well the area is using its buffers (the ratio of record requests to the number of reads).

File Interval Reads Found in Cache/ESA Exception

Exception Keywords	IRE> <i>nnn</i> or IRE< <i>nnn</i> (percent)
Default Message	INTERVAL CACHE/ESA HITS= <i>nnn.nn</i> %
Message Number	PAIDX414
Text Keyword	&DIEP
IDMS	14.0 and up

The interval percentage of reads found in a cache file or an ESA dataspace meets or exceeds the exception threshold. The interval reads found in cache or ESA percentage are calculated as the percentage of record requests not found in an IDMS buffer that were found in either a cache file or an ESA dataspace. This is an indicator of how well non-IDMS storage medium (cache files or ESA dataspace) is being used to prevent physical Input and Outputs since the beginning of the current statistics interval.

File Interval Cache/ESA Utilization Ratio Exception

Exception Keywords	IEU> <i>nnn</i> or IEU< <i>nnn</i>
Default Message	INTERVAL CACHE/ESA UTIL RATIO= <i>nnn.nn</i>
Message Number	PAIDX415
Text Keyword	&DIEU
IDMS	14.0 and up

The interval cache/ESA utilization ratio for the file meets or exceeds the exception threshold. The interval cache/ESA utilization ratio is calculated as the ratio of record requests not found in an IDMS buffer to the number of physical reads performed since the beginning of the current statistics interval. In a mathematical equation: the total requests minus buffer hits, divided by physical reads. This indicates how well non-IDMS storage medium (cache files and ESA dataspace) is being used.

File Interval Reads Found in Storage Exception

Exception Keywords	IRS> <i>nnn</i> or IRS< <i>nnn</i> (percent)
Default Message	INTERVAL STORAGE HITS= <i>nnn.nn</i> %
Message Number	PAIDX416
Text Keyword	&DISP
IDMS	14.0 and up

The interval percentage of record requests that were found in storage (storage hits percentage) meets or exceeds the exception threshold. The interval storage hits percentage is calculated as the percentage of record requests found in any storage medium: IDMS buffers, cache files, or ESA dataspace. This is an overall indicator of how efficiently storage is being used to prevent physical reads since the beginning of the current statistics interval.

File Interval Storage Utilization Ratio Exception

Exception Keywords	ISU> <i>nnn</i> or ISU< <i>nnn</i>
Default Message	INTERVAL STORAGE UTIL RATIO= <i>nnn.nn</i>
Message Number	PAIDX417
Text Keyword	&DISU
IDMS	14.0 and up

The interval storage utilization ratio for the file meets or exceeds the exception threshold. The interval storage utilization ratio is calculated as the number of record requests divided by the number of physical reads. This indicates the overall efficiency of storage (IDMS buffers, cache files, and ESA dataspace) in preventing physical reads since the beginning of the current statistics interval.

File Related System Exception

Exception Keywords	SYS= <i>nnn</i>
Default Message	SYSTEM EXCEPTION (S <i>nnn</i>) OCCURRED
Message Number	PAIDX404
Text Keyword	&SYSN
IDMS	14.0 and up

The indicated system exception has occurred. This may be used to include logic where a system exception must exist so that the file exception definition can be examined.

IDMS Exception Analysis Control Options

The IDMS Exception Analysis Control Options regulate the exception definitions. These options control when and how many aspects of an exception are defined.

Time of Day Control

The `TOD>hhmm` and `TOD<hhmm` keywords provide control over the time of day that the exception definition is to be active. If the time of day falls within the time of day range, the exception is considered active. Otherwise, the exception will be suspended. The time of day control allows you to specify different exception thresholds based on the time of day.

Figure 195 • Time of Day Control

```
IDMS (jobname)  V1  IDMS INTERFACE ACTIVE  TASKS:  18  1.37/SEC
IXDS
+  EXA=1  SET=ON  PRI=1  TOD>0800  TOD<1659  RUL>1000
+  EXA=2  SET=ON  PRI=1  TOD>1700  RUL>2000
```

[Figure 195](#) shows that between 8:00 A.M. and 4:59 P.M. (inclusive), the Run-Unit lock threshold is set to 1000. After 5:00 P.M. and until midnight, the threshold is set to 2000. Then between midnight and 7:59 A.M., no threshold is specified.

Time Interval

The `TIN=nnn` keyword limits how often the exception is to be tested (only every `nnn` seconds). PreAlert maintains a time stamp indicating when the exception is to be tested again. When PreAlert cycles up to, or past this time, the exception will be tested.

Synchronize with Statistics Interval

The SYN= keyword requests that the exception definition is synchronized with the end of the statistics interval. When the exception definition is synchronized, it is active only when the current statistics interval expires. That is, prior to the statistics interval expiring, the exception definition is not tested.

The exceptions for interval statistics may be used at any time during the statistics interval. By using the synchronize option, the interval statistics are checked only at the end of the interval.

Figure 196 • Synchronize option

```
IDMS (jobname)          V1      IDMS INTERFACE ACTIVE   TASKS:  18   2.85/SEC

ILOG
+   SYSTEM STATS INTERVAL = 10M SYNCHRONIZED
ISTX STATISTICS INTERVAL =      8:30:01.7   8:40:00.0   75%

ISMV CPU-RATE Input and Output RATE PIN-RATE, INTERVAL STATISTICS
+   21.84%    30.30    1.82

IXDS
+   EXA=1  SET=ON  PRI=200  SYN=Y  IPG>8  USR=DBAUSER
+   MSG='INTERVAL PAGING RATE = &IPGR, REDUCE BUFFER SIZES'
```

When the current statistics interval expires at 8:40, system exception definition 1 examines the interval paging rate. If the interval paging rate is greater than 8 pages per second, the exception occurs and PreAlert sends the exception message to the DBAUSER user ID.

Prior to 8:40, the exception definition is effectively ignored.

Superseding Exception Definitions

The SUP= keyword specifies that the exception definition may supersede other exception definitions. This is used to eliminate redundant exception analysis when multiple exception definitions are used for a single active task, database area, or buffer.

Figure 197 • Supersede option

```

IDMS IDMSPROD      V1      IDMS INTERFACE ACTIVE   TASKS:  14   .92/SEC
+      *** TASK      170 CMRDUDRQ STORAGE SIZE =   56K (T2) ***
+      *** TASK      173 CMRDUART STORAGE SIZE =   37K (G3) ***
IXVT
IXDT
+   GBL=3   TCD=GLOBAL-U   TYP=USR   SET=ON   PRI=1   STG>20
+   EXA=1   TCD=CB*       TYP=USR   SUP=A   SET=ON   PRI=1   STG>40
+   EXA=2   TCD=CM*       TYP=USR   SUP=E   SET=ON   PRI=1   STG>40
ATSL TYP=UE
ATID      170      171      173
ATCD ADS2      ADS2      ADS2
ATXT CMRDUDRQ CBMDUSCM CMRDUART
ATXI    2/...    1/...    2/...
ATXG    3/...    3/...    3/...
ATSA    57344    32640    37888

```

Task exception definition EXA=1 was built with keyword SUP=A. This exception definition supersedes all lower exception definitions. (Note that Task exception definitions are organized through a best fit value based on the task code mask.) For task ID 171, task exception definition EXA=1 superseded all other exception definitions, and exception analysis was performed for that definition only. Therefore, no exception was detected since the storage size was less than 40K.

Task exception definition EXA=2 was built with keyword SUP=E. This exception definition supersedes all lower exception definitions only when an exception occurs. Otherwise, exception analysis continues with the lower exception definitions.

For task ID 170, task exception definition EXA=2 superseded the lower exception definitions since the exception was found and storage size was greater than 40K.

For task ID 173, task exception definition EXA=2 did not supersede the lower exception definitions since the exception did not occur, and storage size was less than 40K. This allowed exception analysis to continue with the Global task exception definition (GBL=3) where the exception was found and storage size is greater than 20K.

AND Logic Option

The AND= keyword requests that AND logic be used when multiple thresholds are specified within an exception definition.

Figure 198 • AND Logic option

```
IDMS (jobname)  V1  IDMS INTERFACE ACTIVE  TASKS:  18  1.37/SEC
IXVS
+   EXA=1  SET=ON  PRI=1  LOG>70  STG>85
+   EXA=2  SET=ON  PRI=1  AND=Y  CPU>75  IOR<2
```

An exception for system exception definition EXA=1 occurs whenever either the log file exceeds 70 percent full, or a storage pool exceeds 85 percent full.

An exception for system exception definition EXA=2 occurs only when both the CPU rate exceeds 75% and the Input and Output rate is less than two Input and Outputs per second (this is a good detector for CPU loop conditions).

Terminal Sound Option

The SND= keyword allows you to request that the terminal alarm be sounded when the exception occurs.

Exception Priority

The PRI=*nnn* keyword assigns a priority value to the exception definition.

The priority value is used to:

- Select screen chaining when multiple exception definitions have requested screen chaining simultaneously,
- Prioritize exception messages when multiple exceptions occur simultaneously,
- Suppress exception messages when the priority falls outside the minimum and maximum priority range established for the level set (through either the IXAS line command or the IDXINIT macro).

Exception Delay Option

The DLY=*nnn* keyword provides the ability to ignore occasional peaks and valleys associated with some thresholds. When a delay is set, the exception conditions must be met through *nnn* consecutive times before exception actually occurs.

For example, a system exception definition was built with the keywords, PGR>10 and DLY=5. The exception will only occur after the paging rate problem has been detected five consecutive times.

Exception Time Delay

The TDL=*nnn* keyword places a time delay on the exception. With the time delay, the exception condition must have been found for the last *nnn* seconds before the exception actually occurs.

Exception Limit Option

The LIM=*nnn* and LMX=*nnn* keywords limit the number of times that an exception may occur. The LIM=*nnn* keyword limits an exception definition permanently; LMX=*nnn* limits the definition temporarily while the exception condition remains present.

When monitoring a permanent condition (one that remains in the system permanently), the user may only want to be informed of the condition a few times. The LIM=*nnn* keyword may be used to limit the exception definition in this manner.

When monitoring a long term condition that occurs occasionally, the user may want to be informed once each time the condition occurs. The LMX=*nnn* keyword limits the number of times the exception is generated, but is reset whenever the condition ends.

Exception Time-of-Day Range Limit

The TDL=*nnn* keyword provides the ability to limit the number of times the exception may occur during the Time-of-Day range. The limit is reset at the beginning of each Time-of-Day range.

IDMS Exception Analysis Screen Options

The IDMS Exception Analysis Screen Print and Chaining Options may be invoked anytime an exception occurs. Either function may be activated independently for any IDMS exception definition. Thus, some exception definitions could have both screen options active, while others may have either option active, or both inactive.

Screen Print Option

The Screen Print option records the contents of the current display screen. Although several exception definitions may request the Screen Print Option, the screen is printed only once regardless of the number of exceptions that have occurred.

The Screen Print option is activated or terminated separately for each exception definition. The PRT= keyword is used with either the IXVS or IXVT line commands for IDMS System or Active Task exception definitions.

Screen Chaining Option

The Screen Chaining option allows you to select a screen definition to be given control when an exception has occurred. This screen may be used to collect additional information concerning the exception, request Screen Printing, call additional screen definitions, etc. When your analysis of the exception is completed, you can use either the .END (PF3 key) or .RET line command to return control to the calling screen. Since the Screen Chaining option is specified individually for each exception definition, you can tailor sets of screen definitions unique to each exception definition.

If an exception requests Screen Chaining, the current screen is displayed with the message IDX SCREEN PENDING in the upper right hand corner. With the next PreAlert cycle, the called screen is displayed with the message: IDX SCREEN ACTIVE. This message is displayed on all screens until control has been returned to the calling screen. Also, Exception Analysis will temporarily disable the Screen Chaining Option until the calling screen has regained control. This allows you to complete your analysis of one exception before another begins a new Screen Chaining request.

Screen Chaining Freeze Option

The Screen Chaining Freeze Option allows you to invoke Freeze Frame with Screen Chaining. If the Freeze Option has been requested with Screen Chaining, PreAlert freezes updating when the called screen is displayed. IDX SCREEN FROZEN will be displayed to indicate that both IDMS Exception Analysis Screen Chaining and Freeze Frame are in effect. When control is returned to the calling screen, the Freeze Frame setting is returned to its original value.

Rules for using Screen Chaining Freeze:

- Requested screen(s) will remain frozen for the duration of Screen Chaining, but can be reset by the user.
- When Screen Chaining is invoked, the current setting for Freeze Frame will be saved, and restored when control is returned (.RET) to the calling screen.
- If Freeze is active when Screen Chaining is invoked, it will remain in effect during Screen Chaining regardless of the FRZ= value.
- When the Screen Chaining Freeze Frame Option is active, the message IDX SCREEN FROZEN is displayed in the upper right hand corner of the screen.

Screen Chaining Option Keywords

The following keywords control Screen Chaining for IDMS System, Active Task, Database, and Buffer Exception Definitions.

Keyword	Function
SCR= <i>screen name</i>	Specify screen name and activate Screen Chaining.
SCR=*	Terminate Screen Chaining.
SDL= <i>nnn</i>	Specify DELAY count. The exception must be repeated through " <i>nnn</i> " consecutive non-frozen PreAlert cycles before Screen Chaining is invoked.
SLM= <i>nnn</i>	Specify LIMIT count. After Screen Chaining has been invoked " <i>nnn</i> " times, terminate Screen Chaining for that exception definition.
FRZ=Y|N	Request Freeze Frame with Screen Chaining to review screen contents.

Figure 199 • Screen Chaining option

Use of the FRZ=Y keyword invokes Freeze Frame with Screen Chaining, as illustrated by [Figure 200](#).

[illegible]

IDMS Exception Analysis Logging Option

The IDMS Exception Analysis Logging Option provides an interface to the PreAlert Statistics Logging Option. Through this interface, an exception can trigger the recording of IDMS system statistics and/or PreAlert screen images to the PreAlert Log File.

A logging option can be specified for each Exception Definition and a default logging option is specified for the exception level set. The default is used when an option has not been specified for the Exception Definition.

Keyword	Function
LOG=xxx	Specifies the types of statistics to be logged
S	IDMS Current System Statistics
M	PreAlert Exception messages
D	PreAlert display screen images
T	Active task and run unit statistics
E	Active task and run unit statistics for tasks with exceptions only
A	Database area statistics
R	Database area statistics for areas with exceptions only
B	Buffer statistics
F	Buffer statistics for buffers with exceptions only
G	File statistics
H	File statistics for files with exceptions only
I	Interval Statistics for IDMS system statistics, database area statistics, and buffer statistics. Recorded at the end of each statistics interval only.

In [Figure 201](#), the IXVS line command specifies LOG=DS to request logging of the screen image and IDMS System Statistics when the Storage Pool exception occurs.

Figure 201 • IXVS line command

```
IDMS (jobname) V1 IDMS INTERFACE ACTIVE TASKS: 18 1.73/SEC
IXAS
+ LVL=99 SYS=ON TSK=ON LOG=S MSG=Y ALWAYS DISPLAY
  DBX=ON BRF=ON MIN= 0 MAX= 255
IXVS EXA=1, STG>90, SET=ON, LOG=DS
+ EXA=1 SET=ON PRI=1 LOG=DS STG>90
IXDS
+ EXA=1 SET=ON PRI=1 LOG=DS STG>90
+ EXA=2 SET=ON PRI=1 LOG=N LOG>90
+ EXA=3 SET=ON PRI=1 RUL>66
```

The IXDS line command shows the logging options used for all active System Exception Keywords. When the Log Full exception occurs, no logging is performed since the logging option was specified as LOG=N. Since a logging option has not been specified for the Run-Unit Lock Exception, the default logging option (S, shown in the IXAS line command) is used if the exception occurs.

Review ["Statistics Logging Feature" on page 44](#) for further information on directing PreAlert logging to SMF or the PreAlert MLOG datasets.

Record formats for the IDMS System Statistics and display screen images may be obtained by assembling the MLOGRECD and MLOGRECI macros in the PreAlert control file. The ASMMLOG member contains the JCL required to assemble the macros.

IDMS Exception Analysis ASG-SERVER FACILITY Option

PreAlert provides realtime routing of exception messages to the ASG-Server Facility. The Event Notification Manager then provides the exception messages to one or more applications responsible for services such as help desk calls, problem management, performance management, etc. Refer to the appropriate *ASG-Server Facility Reference Guide* for more information on the applications.

The ASF=xxxx keyword specifies the four-character subsystem ID for the ASG-Server Facility. Additionally, a default server ID is specified by the ASFID=xxxx keyword in the Userdata UDPARMS macro. The default is used when an equals sign (=) is specified for the server ID in the exception definition.

Either ASF=xxxx or ASF='=' must be specified in the exception definition for the exception message(s) to be sent to the server.

To send exception messages to the server, PreAlert calls the ASFLINK module. ASFLINK is loaded from the library identified in the ASFLINK DD statement in the PreAlert startup JCL. The ASFLINK DD must be included in the startup JCL for PreAlert. Refer to the *ASG-PreAlert IDMS/MVS System Guide* for details on the ASFLINK DD.

For each exception message being sent to the server, PreAlert calls ASFLINK by using the following parameter list:

Offset	Length	Description
+0	Fullword	Address of the server function being requested.
+4	Fullword	Address of the server command.
+8	Fullword	Length of the data area.
+12	Fullword	Address of the data area.
+16	Fullword	Address of error message return area.
+20	Fullword	Address of the server subsystem ID.

The server function identifies the server function being requested. The default is EVENT.NOTIFICATION.MANAGER, specified by the ASFFUN= keyword in the userdata UDPARMS macro.

The server command identifies the exception message by type (i.e., system, active task, database, or buffer exception message). For PreAlert IDMS exception messages, one of four commands is used:

Command	Message Type
PREALERT.IDMS.SYSTEM.EXCEPTION	System exception
PREALERT.IDMS.TASK.EXCEPTION	Active task exception
PREALERT.IDMS.DATABASE.EXCEPTION	Database exception
PREALERT.IDMS.BUFFER.EXCEPTION	Buffer exception
PREALERT.IDMS.FILE.EXCEPTION	File exception

The length of the data area contains the actual length of the text in the data area. The data area contains the text to identify the exception and the source of the server call. The data is specified in a keyword format, keyword= 'text ', with a single blank character separating the keywords. These keywords are sent for each exception message:

Keyword	Message
DATE= <i>yy.ddd</i>	Julian date when the exception was detected.
TIME= <i>hh:mm:ss.t</i>	Time when the exception was detected.
PREALERT= <i>name</i>	Job (started task) name for PreAlert.
USER= <i>userid</i>	User ID for the PreAlert session.
MESSAGE= <i>text</i>	Exception message text.
MESSAGE_ID= <i>message number</i>	The message number for the exception message.
SYSTEM_ID= <i>MVS id</i>	MVS system ID.
IDMS_JOBNAME= <i>name</i>	Job (started task) name for the IDMS CV being monitored.

The error message return area allows a message to be provided by ASFLINK if it is unable to process the request. PreAlert displays the error message on the top line of the screen. Refer to the appropriate *ASG-Server Facility Reference Guide* for information regarding the specific messages.

The server ID identifies which server is to process the request. The server is supplied through the ASF= keyword for the exception definition.

IDMS Exception Analysis Message Options

The Exception Analysis Message option allows a user to construct a specified exception message. The message may contain text keywords as designated in ["IDMS Exception Analysis Text Keyword Processor" on page 450](#). The exception message may be sent to one or more TSO users and/or the MVS Operator's console.

Message Options Keywords

The following keywords control the exception message options for IDMS System, Active Task, Database, and Buffer Exception Analysis.

Keyword	Function
MSG= <i>message</i>	User supplied exception message text
CLR= <i>x</i>	Specify exception message color
USR= <i>userid</i> s	Send exception message to TSO users
USO= <u>L</u>|N	TSO User Send option, LOGON or NOW
CON=Y|<u>N</u>	Send exception message to the MVS console
RTC= <i>n,n,n,...</i>	Specify console route codes
DSC= <i>n,n,n,...</i>	Specify console descriptor codes

User-specified Messages

The MSG= keyword allows a user specified message. The message may contain text keywords as described in ["IDMS Exception Analysis Text Keyword Processor" on page 450](#).

Normally, when an exception definition contains multiple thresholds, a message is produced for each threshold. When a user message is specified, the message is provided only once. This helps eliminate extraneous messages, particularly when AND logic is used.

Exception Message Color

The CLR= keyword allows the user to specify a color for the exception message(s) to be displayed. The following values may be specified to select the desired color.

Keyword	Function
CLR= <i>x</i>	Specifies the color for exception messages
N	No color, defaults to base color
R	Red messages
G	Green messages
B	Blue messages
Y	Yellow messages
W	White messages
*	Reset color option

The exception messages display in color only if the Color Support option is activated through the .COLRON or .COLRXON control commands. Refer to .COLR - ["Color Support" on page 24](#).

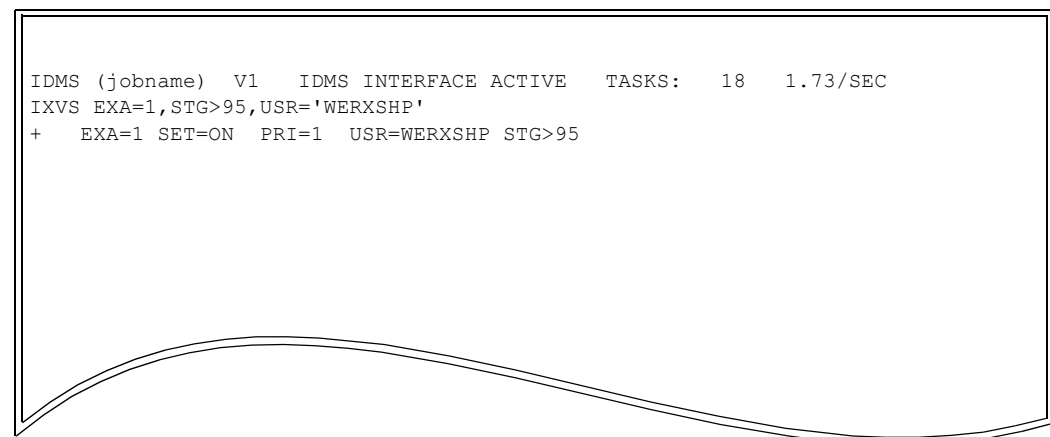
TSO User Messages

The USR= list keyword requests PreAlert to send the exception message(s) to one or more TSO user IDs. If multiple user ID are specified, they must be separated with commas and the entire list enclosed in quotes. Messages sent to a TSO user are prefixed with their Message ID shown in [Figure 202](#).

Note:

To enable the TSO user to receive messages, the PROFILE INTERCOM option must be on.

Figure 202 • TSO user messages



In this example, TSO user WERXSHP receives this message when the Storage Pool Exception occurs:

```
SMIDX003 (jobname & version) 9:15 * STORAGE POOL 0 97% FULL
```

TSO User Send Options

The USO=L|N keyword specifies the option to be used with the send command for sending messages to TSO users.

The default, USO=L, requests the LOGON option; messages are sent to the TSO user if he is currently logged on and receiving messages. If the user is not logged on or is not receiving messages, the message is retained until the user logs on to TSO.

The USO=N keyword requests the NOW option; messages are sent immediately to the user. If the user is not logged on, the message is deleted.

MVS Console Messages

The CON=Y keyword allows PreAlert to send the exception message to the MVS Operator's console. Additionally, the RTC=*n,n* and DSC=*n,n* keywords may be used to specify console routing and descriptor codes. Default routing and descriptor codes are specified in the userdata UDPARMS macro. Refer to MVS Message Library: Routing and Descriptor Codes for valid codes.

Exception Message IDs

Exception message IDs (PAIDX_{nnn}) are assigned to IDMS Exception Analysis from the table below. The message ID prefix is specified in the userdata IDXPFX keyword; the default is PAIDX.

System Exceptions

000 - User Specified	021 - 31-bit Reentrant Pool
001 - Log Full	022 - Tasks Abended Count
002 - Journal Full	023 - Interval CPU
003 - Storage Pool	024 - Interval Input and Output Rate
004 - 24-bit Program Pool	025 - Interval Paging Rate
005 - 24-bit Reentrant Pool	026 - Interval Task Rate
006 - Task Count	027 - Buffer Wait count
007 - RCE Count	028 - Interval Buffer Wait
008 - RLE Count	029 - Short-on-storage Condition
009 - DPE Count	030 - Max-tasks Condition
010 - ECB Count	
011 - Run Unit Locks	
012 - Lterm Locks	
013 - CPU Rate	031 - Program Definition Error Threshold
014 - Input and Output Rate	032 - Region ready and waiting
015 - Page-in Rate	033 - Task Definition thread count
016 - Journal Files Full	034 - Replication cache storage usage
017 - Task Rate Exception	035 - Replication cache storage HWM
018 - Missing Task	036 - Replication last commit latency
019 - Operator Console	037 - Replication apply execution delay
020 - 31-bit Program Pool	038 - Replication apply errors

Task Exceptions

100 - User Message	117 - Task RCE Usage
101 - Storage Size	118 - Overflow Record Percent Exception
102 - Transaction Time	119 - Average Waiting Time user ID
103 - System Mode Time	120 - Waiting on ECB ID
104 - User Mode Time	121 - Record updated not committed
105 - Lock Count	122 - Input and Output Rate
106 - Database Requests	123 - CPU Rate
107 - CALC Record Overflow	124 - Database Request Rate
108 - VIA Record Overflow	125 - Record Request Rate
109 - Current Waiting Time	126 - Page Read Rate
110 - Record Request Ratio	127 - Pages Read Count
111 - Abending Tasks	128 - Abend Request Exception
112 - System Exception Occurred	129 - Buffer Utilization Ratio
113 - Input and Output Waiting Time	130 - Run Unit journal Images
114 - Journal Waiting Time	131 - Task ready and waiting
115 - Index Record Splits	132 - Pages read per DB call ratio
116 - Index Record Spawns Count	

Database Exceptions

200 - User Specified	212 - Interval Input and Output Rate
201 - Input and Output Rate	213 - Interval Record Request Rate
202 - Request Rate	214 - Interval Reads Found Pct
203 - Reads Found in Buffer Pct	215 - Interval Buffer Util Ratio
204 - Total Locks in Area	216 - Reads Found in Cache or Dataspace Pct
205 - Open Access Mode	217 - Cache or Dataspace Utilization Ratio
206 - Run Units Waiting	218 - Reads Found in Storage Pct
207 - Run Units with Area	219 - Storage Utilization Ratio
208 - Run Units with Area	220 - Interval Reads Found in Cache or Dataspace Pct

209 - Status, Offline	221 - Interval Cache or Dataspace Utilization Ratio
210 - System Exception Occurred	222 - Interval Reads Found in Storage Pct
211 - Buffer Utilization Ratio	223 - Interval Storage Utilization Ratio

Buffer Exceptions

300 - User Specified Message	308 - Interval Reads Found Pct in Subschema
301 - Input and Output Rate	309 - Interval Buffer Util Ratio
302 - Request Rate	310 - Buffer Wait Count
303 - Reads Found in Buffer Pct	311 - Interval Buffer Count
304 - System Exception Occurred	312 - Reads Found in Cache Pct
305 - Buffer Utilization Ratio	313 - Cache Utilization Ratio
306 - Interval Input and Output Rate	314 - Interval Reads Found in Cache
307 - Interval Record Request Rate	315 - Interval Cache Utilization Ratio

File Exceptions

400 - User Specified Message	409 - Interval Buffer Utilization Ratio
401 - Input and Output Rate	410 - Reads Found in Cache or Dataspace Pct
402 - Record Request Rate	411 - Cache or Dataspace Utilization Ratio
403 - Reads Found in Buffer Percent	412 - Reads Found in Storage Pct
404 - System Exception Occurred	413 - Storage Utilization Ratio
405 - Buffer Utilization Ratio	414 - Interval Reads Found in Cache or Dataspace Pct
406 - Interval Input and OutputRate	415 - Interval Cache or Dataspace Utilization Ratio
407 - Interval Record Request Rate	416 - Interval Reads Found in Storage Pct
408 - Interval Reads Found in Buffer Pct	417 - Interval Storage Utilization Ratio

IDMS Exception Analysis Command Options

PreAlert allows a command to be issued or a batch job to be submitted whenever an exception occurs.

When the exception command is used, PreAlert calls the Security Exit to verify that the user has authorization to issue MVS commands. Refer to the "Security" chapter in the *ASG-PreAlert IDMS/MVS System Guide* for a further explanation of the Security Exit. Security for the batch job is provided through the normal security measures involved with any batch job.

Command Option Keywords

These keywords control the Exception Command option for IDMS System, Active Task, Database, and Buffer Exception Analysis.

Keyword	Function
CMD= <i>command</i>	Specify the command syntax.
CMD=*	Reset Exception Command Option.
JOB= <i>member</i>	Specify member name for batch job option.
CDL= <i>nnn</i>	Specify Exception Command Delay. The exception must be repeated through <i>nnn</i> consecutive non-frozen PreAlert cycles before the command is issued.
CLM= <i>nnn</i>	Specify Exception Command Limit. After the command has been issued <i>nnn</i> times, do not issue the command again.
CMX= <i>code</i>	Specify Command Exception Code(s). The command will be issued only for the corresponding exceptions. (Active Task Exceptions only.)

Command Image, Operator Reply ID

Beginning the command with R XX, the command is routed to the appropriate IDMS CV. PreAlert replaces the XX with the current Operator Reply ID from the outstanding Operator Reply Element for the CV and issues the command.

Figure 203 • Operator Reply ID

```
IDMS (jobname)      V1      IDMS INTERFACE ACTIVE    TASKS:  22    3.29/SEC
IXAS
+   LVL=99          SYS=ON   TSK=ON   LOG=          MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=    0   MAX= 255

IXVS EXA=1,STG>95,SET=ON,CMD='R XX,99DCMT ....'
+   EXA=1   SET=ON   PRI=1   STG>95   CMD=R XX,99DCMT ....
```

Command Image, Text Keywords

When commands are issued relating to IDMS Task exceptions, PreAlert replaces the text keywords with the appropriate value from the area causing the exception. See ["IDMS Exception Analysis Text Keyword Processor" on page 450](#) for a list of keywords allowed.

The format to issue a CANCEL command for any IDMS user task which exceeds 60K of storage is shown in [Figure 204](#):

Figure 204 • CANCEL command

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  22   3.29/SEC
IXAS
+   LVL=99           SYS=ON   TSK=ON   LOG=          MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=    0   MAX= 255

IXVT GBL=3, SET=ON, STG>60, CMD='R XX,99DCMT VARY AC TA TERMINATE TASKID&ATID'
+   GBL=3   TCD=GLOBAL-U   TYP=U   SET=ON   PRI=1   STG>60
+           CMD=R XX,99DCMT VARY AC TA TERMINATE TASKID &ATID

```

PreAlert substitutes the Active Task ID for the task that was causing the exception condition and issues the command.

Batch Job Option

The Job option may be used instead of the command when more than one command is needed. Typically the job would execute UCFBATCH to issue a signon command, followed by one or more DCMT commands and a signoff.

The JOB= keyword specifies the name of a member in the PreAlert HELPFILE. PreAlert passes the text through the text command processor and replaces any text keywords with the appropriate values. The job is then submitted via the MVS Internal Reader (INTRDR).

Two additional text keywords are &MSGT and &MSGA. Use these keywords to insert exception message text into the batch job being submitted. If the exception definition generates only one exception message then the function of these two keywords is identical.

When the exception definition generates multiple exception messages:

- &MSGT is replaced with only the last exception message
- &MSGA is replaced with all the exception messages limited by the space available in the source

For example, System exception definition #1 generated two exception messages:

```
*** CPU UTILIZATION = 93.40 (S1) ***  
*** I/O RATE = 174.03 (S1) ***
```

The source for the job submit option contained:

```
//PACUSER JOB  
//STEP1 EXEC PGM=  
//SYSIN DD *  
&CVJN &MSGT  
&CVJN &MSGA  
/*
```

This job text would have been submitted:

```
//PACUSER JOB  
//STEP1 EXEC PGM=  
//SYSIN DD *  
IDMSJOB1 I/O RATE = 174.03 (S1)  
IDMSJOB1 CPU UTILIZATION = 93.40 (S1);I/O RATE = 174.03 (S1)  
/*
```

Command Limit Keyword

The CLM= keyword is used to limit the number of times the exception command may be issued.

Figure 205 • Command limit keyword

```
IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  22   3.29/SEC
IXAS
+   LVL=99           SYS=ON   TSK=ON   LOG=          MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=    0   MAX= 255

IXVS EXA=1,STG>95,SET=ON,CMD='R XX,99DCMT ....',CLM=1
+   EXA=1   SET=ON   PRI=1   STG>95   CMD=R XX,99DCMT ....   CLM=1
```

Adding the CLM=1 parameter limits the command to being issued only once.

Command Delay Keyword

Using the CDL= keyword provides a delay factor in issuing the command through *nnn* non-frozen PreAlert cycles.

Figure 206 • Command delay keyword

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  22   3.29/SEC
IXAS
+   LVL=99          SYS=ON   TSK=ON   LOG=          MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=    0   MAX= 255

IXVS EXA=1,STG>95,SET=ON,CMD='R XX,99DCMT ....',CLM=1,CDL=2
+   EXA=1   SET=ON   PRI=1   STG>95   CMD=R XX,99DCMT ....   CLM=1   CDL=2

```

Adding the CDL=2 keyword delays the command until PreAlert has detected the exception occurring through two consecutive PreAlert cycles.

Command Exception Codes (Active Task Exceptions Only)

The command keyword can be restricted further by using the CMX= keyword to issue the command only if the exception is caused by the appropriate threshold.

Code	Exception	Code	Exception
ABC	Abend Request Count	PRR	Page Read Rate
ABN	Task Abending	RCE	RCE Usage
AWT	Average Wait Time/DB Request	RRC	Record Request Ratio
BUR	Buffer Utilization Ratio	RRR	Record Request Rate
CPU	CPU Utilization	RRU	Rec Updated Not Committed
CRO	CALC Record Overflows	SPL	Index Record Splits
DBR	Database Requests	SPW	Index Record Spawns
DBX	Database Request Rate	STG	Storage Size
ECB	ECB ID Exception	TTM	Transaction Time
IOR	Input and Output Rate	TWT	Task ready and waiting

Code	Exception	Code	Exception
IOW	Input and Output Waiting Time		
JRW	Journal Input and Output Waiting Time	UTM	User Mode Time
LOC	Lock Count	VROVIA	Record Overflows
OFP	CALC or VIA Overflow Pct	WTM	Current Waiting Time
PDB	Pages read per DB call		
PRC	Pages Read Count		
RUJ	Run unit journal images		
STM	System Mode Time		
SYS	System Exception Occurred		

In [Figure 207](#), adding the CMX=STG,LOC keyword limits the command to being issued only when exception thresholds are being exceeded for Storage Size or Lock Count.

Figure 207 • Command exception keyword

```

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  22   3.29/SEC
IXAS
+   LVL=99          SYS=ON   TSK=ON   LOG=          MSG=Y ALWAYS DISPLAY
+                  DBX=ON   BFR=ON   MIN=    0   MAX= 255

IXVT GBL=3,CMX=STG,LOC
+   GBL=3   TCD=GLOBAL-U   TYP=U   SET=ON   PRI=1   STG>60   AWT>.1000   LOC>1000
+   CMD=R XX,99DCMT VARY AC TA TERMINATE TASKID &ATID CMX=STG,LOC

```

To reset the CMX keyword, type 'CMX=*'.

IDMS Exception Analysis Text Keyword Processor

The Text Keyword Processor is called for message text (MSG=), command text (CMD=), and the member text for the JOB option (JOB=). The text keyword processor replaces the text keywords with the actual value from the exception.

A separate set of text keywords is available for Active Task, System, Database and Buffer Exception Analysis. The keywords are available within the specific exception analysis only; they cannot be carried across exception definitions. The keywords attempt to correspond to existing PreAlert line commands. In some cases the meaning may have been slightly modified or new keywords may have been created.

Note:

If you are using the IDMS Exception Analysis Batch Definition Facility, you must begin any exception text keyword with a double ampersand (&&) rather than a single ampersand (&). The Assembler compiler ignores the first ampersand.

If you are working with PreAlert online, you may specify the exception text keywords (with a single ampersand) as they are listed in the following text.

Common Exception Text Keywords

These text keywords may be used in any exception message text, exception command text, or job option member text.

Keyword	Description
&CVJN	IDMS CV job name
&CVNO	IDMS CV number
&DCVN	IDMS DC version number
&MSGT	Exception message text. If multiple exception messages are generated for an exception definition, then only the last message will be used.
&MSGA	Exception messages. When multiple messages are generated for an exception definition, then all the messages will be used, limited by the available space within the source text.

Task Exception Text Keywords

These text keywords may be in Active Task exception message text, exception command text, or job option member text.

Keyword	Description
&ATCD	Task Code
&ADLG	ADS Dialog Name
&ATUI	User ID
&ARPR	Pages Read Rate
&ATPR	Pages Read Count
&ATPD	Pages read per DB call ratio
&ATEW	ECB Wait Code
&ATPN	Program Name
&ATTT	Transaction Time
&ATWT	Current Waiting Time
&ATCO	CALC Record Overflows
&ATVO	VIA Record Overflows
&ATOF	CALC or VIA Overflow Pct
&ATLK	Lock Count
&ATBU	Buffer Utilization Ratio
&ARTC	CPU Rate
&ARDB	Database Request Rate
&RUIN	Run Unit ID (decimal)
&RULI	Run Unit Local ID
&RUJB	ERUS Batch jobname
&RUIS	Index Rec Splits
&RUVS	VOLSER of current Input and Output
&SYSN	System Exception Occurred
&ATID	Task ID
&ATPT	Pterm name
&ATLT	Lterm name
&ATXC	Abend Request Count

Keyword	Description
&ATXF	Abend Request Message
&ATEN	ECB ID
&ATSA	Storage Allocated
&ATTS	System Mode CPU time
&ATTU	User Mode CPU Time
&ATRC	Record Request Ratio
&ATDB	Database Requests
&ATAW	Avg Time per DB request
&ATRE	RCEs count
&ARIO	Input and Output Rate
&ARRR	Record Request Rate
&RUID	Run Unit ID (decimal)
&RUJN	ERUS Batch job number
&RUIP	Index Record Spawns
&RURU	Record updated not committed
&RUJI	Run unit journal images

System Exception Text Keywords

The following text keywords may be used in System exception message text, exception command text, and job option member text.

Keyword	Function
&LOGP	Log file percent full
&JRNL	Journal name
&JRNP	Journal percent full
&JRNI	Journal full without IDMSAJNL
&JRFC	Journal files full count
&STGN	Storage pool number
&STGP	Storage pool Percent full
&PGMP	24-bit Program pool percent full
&P31P	31-bit Program pool percent full

Keyword	Function
&RNTP	24-bit Reentrant pool percent full
&R31P	31-bit Reentrant pool percent full
&TCTC	Current task count
&TCTM	Maximum task count
&TRTS	Current task rate (tasks per second)
&TABN	Tasks Abended Count
&ITRT	Interval Task Rate
&ICPU	Interval CPU Utilization
&IIOR	Interval Input and Output Rate
&IPGR	Interval page-in rate
&RCEP	RCEs percent used
&RLEP	RLEs percent used
&DPEP	DPEs percent used
&ECBP	ECBs percent used
&RULC	Run unit lock count
<LC	L-term lock count
&RULP	Run unit locks percent of max (IDMS 10.2 only)
&CPUP	CPU utilization percent
&IORT	Input and Output rate (per second)
&PGIR	Page-in rate (per second)
&BFWC	Buffer wait count
&BIWC	Interval buffer wait count
&MIST	Missing task analysis task code
&OPRI	Operator Console USERID (or NOT)
&PDEN	Program-name for program definition errors
&PDEC	Program definition check count
&PDET	Program definition check threshold
&TDEN	Task-code for task definition thread count exception
&TDEC	Task definition current thread count
&TDEM	Task definition maximum thread value

Keyword	Function
&RSPC	Replication cache storage usage
&RSHP	Replication cache storage HWM
&RLTC	Replication last commit latency
&RAED	Replication apply execution delay
&RAEC	Replication apply errors

Database Exception Text Keywords

The following text keywords may be used in database exception message text, exception command text, and job option member text.

Keyword	Function
&DBNM	Database area name
&DBST	Area status
&DBOP	Area open access mode (IDMS 10.2 only)
&DBUT	Buffer utilization ratio
&DBIR	Input and Output rate (per second)
&DBRR	Request rate (per second)
&DBRP	Percent reads found in buffer
&DBEP	Reads found in cache or dataspace pct
&DBEU	Cache or dataspace utilization ratio
&DBSP	Reads found in storage pct
&DBSU	Storage utilization ratio
&DIIR	Interval Input and Output rate
&DIRR	Interval record request rate
&DIRP	Interval reads found in buffer percentage
&DIUT	Interval buffer utilization ratio
&DIEP	Interval reads found in cache or dataspace pct
&DIEU	Interval cache or dataspace utilization ratio
&DISP	Interval reads found in storage pct
&DISU	Interval storage utilization ratio
&DBLK	Total locks held in area

Keyword	Function
&DBRU	RUID with Exclusive open, or any RUID with area open (IDMS 10.2 only)
&DBRO	Run units with area open (IDMS 10.2 only)
&DBRS	Run units with area included in subschema (IDMS 10.2 only)
&SYSN	System exception occurred

Buffer Exception Text Keywords

The following text keywords may be used in buffer exception message text, exception command text, and job option member text.

Keyword	Function
&BFFR	Buffer name
&BFUT	Buffer utilization ratio
&BFIR	Input and Output (per second)
&BFRR	Request rate (per second)
&BFRP	Percent reads found in buffer
&BIIR	Interval Input and Output rate
&BIRR	Interval record request rate
&BIRP	Interval reads found in buffer percentage
&BIUT	Interval buffer utilization ratio
&BFWC	Buffer wait count
&BIWC	Interval buffer wait count
&BFRC	Percent reads found in cache
&BIRC	Interval percent reads found in cache
&BFCU	Cache utilization ratio
&BICU	Interval cache utilization ratio
&SYSN	System exception occurred

File Exception Text Keywords

The following text keywords may be used in file exception message text, exception command text, and job option member text.

Keyword	Function
&FCNM	File name
&FCDD	DD name
&FCDS	Dataset name
&FCVS	Dataset VOLSER
&FCBF	Buffer name
&FCCH	Cache file name
&FCIR	Input and Output rate
&FCRR	Record request rate
&FCRP	Reads found in buffer percent
&FCUT	Buffer utilization ratio
&FCEP	Reads found in cache or dataspace pct
&FCEU	Cache or dataspace utilization ratio
&FCSP	Reads found in storage pct
&FCSU	Storage utilization ratio
&FIIR	Interval Input and Output rate
&FIRR	Interval record request rate
&FIRP	Interval reads found in buffer percent
&FIUT	Interval buffer utilization ratio
&FIEP	Interval reads found in cache or dataspace pct
&FIEU	Interval cache or dataspace utilization ratio
&FISP	Interval reads found in storage pct
&FISU	Interval storage utilization ratio
&SYSN	System exception occurred

IDMS Exception Analysis Abend Options

The IDMS Exception Analysis Abend option is used to request the abend of an active task. An exception definition may be built to request the abend of an active task when its usage of a particular resource exceeds the specified threshold. The abend option is available only for IDMS Active Task Exception Analysis.

PreAlert performs several validity checks before requesting the abend. If one of these checks should fail, then PreAlert displays the following message `ABX FAILED, TASK CANNOT BE ABENDED`. One of the following codes is appended to the message to indicate the cause of failure.

Code	Definition
TSKID	Another task has been assigned to the TCE before PreAlert has had the time to process the abend request. The original task has already been terminated.
ABNDM	The task is currently abending. PreAlert will not request an abend for a task that is already abending.
NABNM	The TCENABN flag has been set for the task. This flag indicates "DON'T ALLOW ABEND IF ON".
ARBKM	The task is currently performing rollback processing. PreAlert will not request an abend for a task performing rollback processing.

The TCENABN check can be bypassed. The userdata IAXBXBY keyword specifies the bypass of the TCENABNM check. Refer to the PreAlert System Guide for more information on this option.

Abend Option Keywords

The abend option keywords are available for Active Task Exception definitions only.

Keyword	Function
ABX=Y|N	Request abend task option.
ADL= <i>nnn</i>	Abend delay count
ALM= <i>nnn</i>	Abend limit count

Abend Task Option

The ABX=Y keyword requests the task abend option. When the exception occurs and the abend delay count has been met, PreAlert will request the abend of the task.

For the abend request, PreAlert sets the TCERNWY and TCERQAB bits in the task's TCE in IDMS. These bits tell IDMS to abend the task using runaway abend procedures. Unfortunately, there are circumstances where the task is not immediately abended; PreAlert will continue to request the abend until the abend processing begins. Each time PreAlert requests the abend, the abend request count is incremented. Once the task has actually entered abend processing, PreAlert no longer requests the abend or updates the abend request counter.

When PreAlert requests a task abend, an additional exception message is generated, TASK ABEND REQUESTED, COUNT = *nnn*. All message options specified in the exception definition will be applied to the abend request message. These include directing the message to one or more TSO users.

Although multiple exception definitions may simultaneously request the task abend, only one abend request is made in a PreAlert cycle. The abend update counter is updated only once.

The abend request counter is used to monitor the success of the abend requests. An abend count of one indicates that an attempt has made to abend the task. A count of two or more indicates that at least one abend attempt was unsuccessful.

An additional exception definition may be built to monitor the abend count. When the count exceeds the threshold, a message is sent to a specific user indicating that PreAlert is unable to abend the task.

Abend Delay Count

The ADL= keyword provides the ability to delay the abend option through *nnn* consecutive exceptions. This allows the exception to occur a few times before the abend is requested.

For example, an active task exception has been built to monitor task Input and Output rates. By using the abend delay option, ADL=*n*, the exception may occur a few times, but the task is not abended until the delay is met. The exceptions still occur for short peaks of Input and Output activity, but the task is abended when the exceptions continue to occur.

Abend Limit Count

The ALM= keyword limits the number of times PreAlert will attempt to abend a task for a specific exception. The abend limit is used to eliminate extraneous messages when the abend requests are not being satisfied. The limit should only be used when an additional exception definition has been built to monitor the abend request count. This additional definition would notify the user that the abend requests are not being satisfied.

Using IDMS Exception Analysis Online - Example

The following example provides a functional overview of IDMS Exception Analysis and an explanation of how it can easily benefit the user in monitoring and controlling the complex IDMS database environment.

The IDMS line command is the only line command required for PreAlert to monitor an IDMS CV and to perform IDMS Exception Analysis. The IDMS line command identifies the IDMS CV to be monitored and displays any exception messages for the CV.

Exception Analysis is defined in an exception level set. The level set contains the exception definitions which specify the exception thresholds, messages, and actions. A level set must be loaded for each IDMS CV being analyzed. A default level set may be specified in the userdata UDIDL macros; or a level set may be dynamically loaded using the IXAS line command.

The commands listed below control IDMS Exception Analysis.

Line Command	Function
IXAS	Specify level set, activate or terminate analysis
IXAL	List exception areas and definition names
IXDS	Display IDMS System exception definitions
IXDT	Display Active Task exception definitions
IXDD	Display Database exception definitions
IXDB	Display Buffer exception definitions
IXDF	Display File Exception definitions (IDMS 14.0 and up)
IXVS	Vary IDMS System exception definitions
IXVT	Vary Active Task exception definitions
IXVD	Vary Database exception definitions
IXVB	Vary Buffer exception definitions
IXVF	Vary File Exception definitions (IDMS 14.0 and up)

IDMS Exception Definition Level set 99 has been included in the standard PreAlert installation. This level set has been defined with spare exceptions definitions available for system, active task, database, and buffer exception analysis. These will be used in this exercise to assist in becoming familiar with IDMS Exception Analysis.

Using IDMS Exception Analysis Auto-start Option

PreAlert can automatically monitor one or more IDMS CVs. After starting PreAlert, use the user-defined screen to indicate which IDMS CVs to monitor. Predefined exception level sets are automatically loaded for each of the IDMS CVs.

Follow these steps to have PreAlert automatically monitor one or more IDMS CVs:

- [Defining the exception level set](#)
- [Specifying Userdata options](#)
- [Building a startup screen](#)
- [Starting PreAlert](#)
- [Signing on to PreAlert](#)
- [Sending exception messages](#)
- [Monitoring multiple IDMS CVs](#)

Defining the Exception Level Set

The exception level set contains the exception definitions that PreAlert uses to monitor the IDMS CV. A few sample level sets are included with your PreAlert installation. These are found in the PreAlert control file (XXX.PREALERT.CNTL).

Figure 208 • IDXLVL98 example

```

EDIT          PREALERT.V430.CNTL(IDXLVL98) - 01.00          Columns 00001 00072
Command ==>                                           Scroll ==> PAGE
***** ***** Top of Data *****
000001          PRINT NOGEN
000002          IDXINIT SYS=ON, SYSCT=20, TASK=ON, TASKCT=20, MSG=Y,          X
000003          BFFR=ON, BFFRCT=10, DBX=ON, DBXCT=10
000004          IDXSYS EXA=1, SET=ON, LOG1=90
000005          IDXSYS EXA=2, SET=ON, JFC1=2
000006          IDXSYS EXA=3, SET=ON, CPU1=80, IOR2=1, AND=Y,          X
000007          MSG='POSSIBLE CPU LOOP, CPUP=&&CPUP, IORT=&&IORT'
000008          IDXSYS EXA=4, SET=ON, CPU2=5, IOR1=50, AND=Y,          X
000009          MSG='POSSIBLE I/O LOOP, CPU=&&CPUP, IORT=&&IORT'
000010          IDXSYS EXA=5, SET=ON, RWT=Y
000011          IDXSYS EXA=6, SET=ON, TRT2=1, CPU1=50, AND=Y,          X
000012          MSG='POSSIBLE CPU LOOP, TASK RATE=&&TRTS, CPU=&&CPUP'
000013          END
***** ***** Bottom of Data *****

```

For information on sending exception messages to your TSO session or MVS console see ["Sending Exception Messages" on page 467](#).

IDXLVL98 builds these 6 system exception definitions:

- 1 **LOG1=90.** Checks for the IDMS log file being over 90% full.
- 2 **JFC1=1.** Checks for 2 or more full journals that have not yet begun IDMSAJNL processing.
- 3 **CPU1=80 and IOR2=1.** Checks for a possible CPU loop condition where the IDMS region is using over 80% of the CPU and is doing less than 1 I/O per second.
- 4 **CPU2=5 and IOR1=50.** Checks for a possible I/O loop condition where the IDMS region is doing over 50 I/Os per second and using less than 5% CPU.
- 5 **RWT=Y.** Indicates the IDMS region is ready and waiting for the CPU. That is, IDMS has work to do, but is not getting dispatched by the MVS operating system.
- 6 **TRT2=1 and CPU1=50.** Checks for another possible CPU loop condition where the task completion rate is less than 1 task per second, and the CPU usage is over 50%.

The rates used in these exceptions may not represent what is normal in your installation. Rather these exceptions demonstrate some of the possibilities available to you.

Also, you may add additional exceptions for testing purposes. An exception for CPU less than 999% will probably always occur.

```
IDXSYS  EXA=7, SET=ON, CPU2=999,                                X
        MSG=' PREALERT TEST EXCEPTION MESSAGE'
```

Sample JCL to assemble and link the exception level set is included in the PreAlert control file, member ASMIDX or ASMHIDX.

To assemble the IDXLVL98 level set

- 1 Complete the JOB statement.
- 2 Specify the PreAlert dataset prefix and the level, 98, on the PROC statement.
- 3 Submit the job.

Specifying Userdata Options

Specifying the PreAlert Userdata options instructs PreAlert to use the exception level set when monitoring your IDMS CV. The PreAlert Userdata options are found in the PreAlert control file, member Userdata. The file is a set of Assembler language macros that are assembled and linked into PreAlert. See the *ASG-PreAlert IDMS/MVS System Guide* for complete information on the Userdata options.

The UDIDXL statement specifies the IDMS CV jobname and the exception number.

Figure 209 • Sample UDIDXL contained in the Userdata member

```

EDIT          PAC.V430.INSTALL(USERDATA) - 01.00          Columns 00001 00072
Command ==>                                           Scroll ==> PAGE
000197 *****
000198 *
000199 *          PREALERT/IDMS USERS:
000200 *
000201 *          MACRO - UDIDXL
000202 *
000203 *          THIS MACRO ALLOWS THE USER INSTALLATION TO ASSIGN DEFAULT
000204 *          EXCEPTION LEVEL SETS TO SPECIFIC IDMS-CV(S) BY USERID.
000205 *
000206 *          KEYWORD PARAMETERS MUST BE SPECIFIED:
000207 *          1.  USR=USERID - ALLOWS DEFAULTS TO BE ASSIGNED BY USERID
000208 *                   USE USR=* TO ASSIGN DEFAULTS TO ALL USERS
000209 *          2.  IDX=(CV-NAME,LEVEL) - SPECIFY A LIST OF CV JOBNAME(S) AND
000210 *                   THE DEFAULT LEVEL SET.
000211 *
000212 *****
000213          UDIDXL USR=*,IDX=(IDMSPROD,99,IDMSDEVL,99)

```

Edit this statement to indicate your IDMS jobname, and set the exception level to 98.

```

EDIT          PAC.V430.INSTALL(USERDATA) - 01.00          Columns 00001 00072
Command ==>                                           Scroll ==> PAGE
000197 *****
000198 *
000199 *          PREALERT/IDMS USERS:
000200 *
000201 *          MACRO - UDIDXL
000202 *
000203 *          THIS MACRO ALLOWS THE USER INSTALLATION TO ASSIGN DEFAULT
000204 *          EXCEPTION LEVEL SETS TO SPECIFIC IDMS-CV(S) BY USERID.
000205 *
000206 *          KEYWORD PARAMETERS MUST BE SPECIFIED:
000207 *          1.  USR=USERID - ALLOWS DEFAULTS TO BE ASSIGNED BY USERID
000208 *                      USE USR=* TO ASSIGN DEFAULTS TO ALL USERS
000209 *          2.  IDX=(CV-NAME,LEVEL) - SPECIFY A LIST OF CV JOBNAME(S) AND
000210 *                      THE DEFAULT LEVEL SET.
000211 *
000212 *****
000213          UDIDXL USR=*,IDX=(IDMSJOB1,98)

```

UDIDXL also includes a keyword you can use to specify a PreAlert user ID. This allows you to keep separate lists of IDMS jobnames and level sets for separate users. For now, USR=* specifies any PreAlert user.

The JCL to assemble and link the Userdata options is included in the PreAlert control file, member ASMUSRD or ASMHUSRD.

To assemble and link the Userdata options

- 1** Complete the JOB statement.
- 2** Specify the dataset name prefix on the PROC statement.
- 3** Submit the job.

Building a Startup Screen

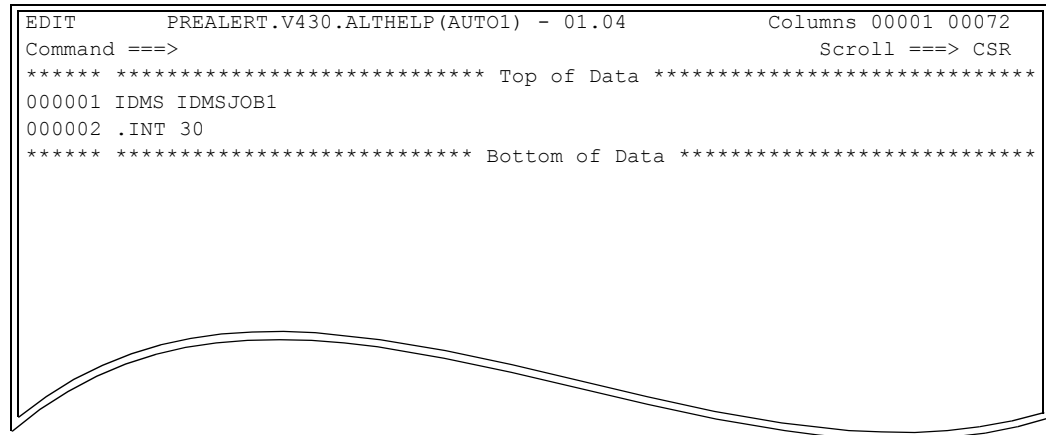
All PreAlert screen definitions are members in a PreAlert Help file. You can use these 3 separate help files.

- The PreAlert system help file, as distributed with PreAlert
- The PreAlert ALTHELP file
- Your individual user help file

See the *ASG-PreAlert IDMS/MVS System Guide* for more information about these files.

To build a new screen definition, edit a new member in a help file. ASG recommends using the PreAlert ALTHELP file for any installation tailored screens. The following example demonstrates building a screen named AUTO1.

Figure 210 • Edit AUTO1 screen



```
EDIT      PREALERT.V430.ALTHELP(AUTO1) - 01.04      Columns 00001 00072
Command ==>                                         Scroll ==> CSR
***** ***** Top of Data *****
000001 IDMS IDMSJOB1
000002 .INT 30
***** ***** Bottom of Data *****
```

The AUTO1 screen only contains these 2 line commands:

IDMS IDMSJOB1. PreAlert monitors IDMSJOB1. Exception analysis starts automatically using IDXLVL98 as defined in the userdata UDIDXL statement.

.INT 30. Sets the PreAlert auto-update interval to 30 seconds. PreAlert will monitor the IDMS CV once every 30 seconds. If you do not have a .INT to set the auto-update interval, PreAlert monitors the CV only once, and then waits for the user to press Enter.

This is all you need on a screen for PreAlert to monitor an IDMS CV for exceptions.

Starting PreAlert

PreAlert can automatically start a user session when PreAlert is started. By specifying parameters in the PreAlert startup JCL, PreAlert will start the user session using a designated screen. All of the startup parameters are provided in the *ASG-PreAlert IDMS/MVS System Guide*.

Figure 211 • PreAlert startup JCL

```

EDIT          PREALERT.V430.CNTL(PAPROC) - 01.01          Columns 00001 00072
Command ==>                                         Scroll ==> PAGE
***** ***** Top of Data *****
000001 //PREALERT  PROC PREFIX='PREALERT.V430'
000002 //PREALERT  EXEC  PGM=SHOPMV00,DPRTY=(15,15),TIME=1440,REGION=0K,
000003 //          PARM='SCR=MAINMENU,VAP=*,USR=userid,SCR=AUTO1'
000004 /**
000005 /**  PARM KEYWORDS:
000006 /**      SCR=SCREENS : FIRST SCREEN DISPLAYED AFTER USER SIGNON
000007 /**
000008 /**      VAP=APPLID  : VTAM APPL-ID
000009 /**      VPS=PASSWORD: VTAM APPL PASSWORD
000010 /**
000011 /**      PAS=MTSO    : PREALERT/TSO INTERFACE ID
000012 /**
000013 /**  AUTO-START SESSIONS:
000014 /**      USR=USERID  : USERID FOR AUTO-START SESSION
000015 /**      UPW=PASSWORD: PASSWORD FOR USERID
000016 /**      USC=SCREEN  : STARTUP SCREEN FOR AUTO-START SESSION
000017 /**      URL=0       : RESTART LIMIT FOR AUTO-START SESSION
000018 /**
000019 /**      VTM=LU-NAME  : VTAM TERMINAL LU NAME FOR AUTO-START SESSION

```

These parameters are included in the PreAlert startup JCL:

USR=userid. Specifies the user ID to be used with the auto-start session. You should use your own TSO user ID here. Later you will log on to the session to verify its activity.

USC=AUTO1. Specifies the screen name for the auto-start session.

A password was not specified for the auto-start session. The basic installation of PreAlert does not require the use of a password. If you have installed the security exit, then the password may be required.

Also, the name of a VTAM terminal for PreAlert to use with the auto-start session was not specified. Without the terminal, PreAlert will start the session in background. That is, PreAlert will start the session without the use of a terminal.

At this time you should start PreAlert. The SDSF LOG display shows the startup messages generated by PreAlert.

Figure 212 • PreAlert startup messages

```
S PREALERT
$HASP100 PREALERT ON STCINRDR
$HASP373 PREALERT STARTED
IEF403I PREALERT - STARTED - TIME=12.05.58
PAV032 - PREALERT USERDATA ASSEMBLED: 04/23/01 11.05
PAV005 - PREALERT/MTSO READY FOR LOGON
PAV039 - PREALERT AUSR USER userid /BACKGRND SIGNED ON
```

The last message, PAV039, indicates that the auto-start user session for *userid* has been started as a background session.

Signing on to PreAlert

To verify the auto-start parameters, you can sign on to the PreAlert auto-start session. If you started PreAlert using your TSO user ID for the auto-start session, execute the PreAlert CLIST. The PreAlert CLIST is described in the *ASG-PreAlert IDMS/MVS System Guide*.

Figure 213 • PreAlert AUTO1 display

```
COMMAND:          AUTO1          12:17:54.5  01.120  80.93% .TUT for Tutorial
IDMS IDMSJOB1     V1             IDMS INTERFACE ACTIVE  TASKS:  17    3.04/SEC
.INT OFF
```

Since PreAlert has not found any exceptions, no exception messages were generated. If exceptions were found, then the messages would display under the IDMS line command.

Also, PreAlert turned off the auto-update interval when you signed on. ASG does not recommend using the auto-update feature when you sign on to PreAlert from a TSO session.

Enter `.BG30` in the command input area to return to background. PreAlert returns the session to the background and sets the auto-update interval to 30 seconds.

Sending Exception Messages

The exception level set defined earlier (["Defining the Exception Level Set" on page 460](#)) did not provide a means of sending messages to your TSO session or the MVS console. When the auto-start session was in the background, an exception could occur, but no one would know about it.

By adding these keywords to the exception definitions you can send exception messages to either TSO users or the MVS console:

USR=userid. PreAlert sends the exception message to the TSO user ID whenever the exception is detected.

CON=Y. PreAlert sends the exception message to the MVS console whenever the exception is detected. Operators do not want to view numerous extraneous messages, so avoid sending a large amount of messages to the MVS console.

Figure 214 • IDXLVL98

```

EDIT          PREALERT.V430.CNTL(IDXLVL98) - 01.00          Columns 00001 00072
Command ==>                                           Scroll ==> PAGE
***** ***** Top of Data *****
000001          PRINT NOGEN
000002          IDXINIT SYS=ON, SYSCT=20, TASK=ON, TASKCT=20, MSG=Y,          X
000003          BFFR=ON, BFFRCT=10, DBX=ON, DBXCT=10
000004          IDXSYS EXA=1, SET=ON, LOG1=90, CON=Y, USR=userid
000005          IDXSYS EXA=2, SET=ON, JFC1=2, CON=Y, USR=userid
000006          IDXSYS EXA=3, SET=ON, CPU1=80, IOR2=1, AND=Y, USR=userid,          X
000007          MSG='POSSIBLE CPU LOOP, CPUP=&&CPUP, IORT=&&IORT'
000008          IDXSYS EXA=4, SET=ON, CPU2=5, IOR1=50, AND=Y, USR=userid,          X
000009          MSG='POSSIBLE I/O LOOP, CPU=&&CPUP, IORT=&&IORT'
000010          IDXSYS EXA=5, SET=ON, RWT=Y, USR=userid
000011          IDXSYS EXA=6, SET=ON, TRT2=1, CPU1=50, AND=Y, USR=userid,          X
000012          MSG='POSSIBLE CPU LOOP, TASK RATE=&&TRTS, CPU=&&CPUP'
000013          END
***** ***** Bottom of Data *****

```

PreAlert also provides these functions to use when an exception occurs:

- Logging of messages and statistics
- MVS console route and message descriptor codes
- Issue MVS commands
- Issue IDMS commands
- Submit batch jobs

These features are described in ["IDMS Exception Analysis Message Options" on page 437](#).

Monitoring Multiple IDMS CVs

Using PreAlert to automatically monitor multiple IDMS CVs requires these changes:

- 1** Change the Userdata UDPARMS macro IDMSMAX=4 to indicate the maximum number of IDMS CVs you are going to monitor.
- 2** Change the Userdata UDIDXL macro IDX= keyword to add the jobnames and exception level sets for the additional IDMS CVs.
- 3** Create additional exception level sets as needed for each IDMS CV. The same level set can be used for multiple IDMS CVs.
- 4** Modify the AUTO1 startup screen to include another IDMS line command for each of the IDMS CVs.

If you are in a SYSPLEX environment where multiple IDMS CVs may be run on one of several processors, then you can use the IDMS jobnames list features. With an IDMS job names list, you specify the jobnames for all the IDMS CVs you want to monitor, then start PreAlert on each of the processors. PreAlert will monitor only those IDMS CVs that are active on that processor. Refer to ["Using IDMS Jobname Lists" on page 4](#).

Start Exception Analysis

Select the IDX1 screen from the IDMSM7 Exception Analysis menu. The display should appear as [Figure 215](#):

Figure 215 • IDX1 screen

```

COMMAND: _____ IDX1      15:02:14.3  90.305  43.42%
IDMS (jobname) V1  IDMS INTERFACE ACTIVE  TASKS:   18   1.73/SEC
IXAS
+ EXCEPTION ANALYSIS DATA MODULE NOT FOUND
IXVS
+ EXCEPTION ANALYSIS DATA MODULE NOT FOUND
IXDS
+ EXCEPTION ANALYSIS DATA MODULE NOT FOUND
STPL 0  STGPOOL 0  CONTAINS TYPES: ALL
+ SIZE=  2816K  USAGE      CURRENT      HWM      GET SCAN1=  16162  58%
+ CUSHION=    20K  LONG =  1228K  43%  1268K  45%  GET SCAN2=   6866  24%
+ STG WAIT=     0  SHORT=  1118K  39%  1118K  39%  GET SCAN3=   4492  16%
+ SOS CNT=     0  TOTAL=  2346K  84%  2346K  84%  GET REQS =  27520
+ FREE REQS=  27191  PAGES RELEASED=   21363  PAGE RELEASES=     0

```

The message EXCEPTION ANALYSIS DATA MODULE NOT FOUND is displayed since we have not yet entered the exception level to be used.

Note: _____

This message also displays if the desired level has not been defined through the batch definition facility.

Specify Exception Level

Enter LVL=99 in the input area following the IXAS line command and press Enter. The display updates as shown in [Figure 216](#).

Figure 216 • IXAS line command

```

COMMAND: _____ IDX1      15:02:26.0  90.305  29.55%  .TUT FOR TUTORIAL

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE  TASKS:  22  3.29/SEC

IXAS LVL=99
+   LVL=99          SYS=PEND TSK=PEND LOG=      MSG=Y ALWAYS DISPLAY
+                   DBX=PEND BFR=PEND MIN=    0  MAX= 255

IXVS
IXDS

STPL 0  STGPOOL 0  CONTAINS TYPES: ALL
+   SIZE=  2816K  USAGE   CURRENT   HWM      GET SCAN1=  16162 58%
+   CUSHION=    20K  LONG  =  1228K  43%  1268K  45%  GET SCAN2=   6866 24%
+   STG WAIT=     0  SHORT=  1118K  39%  1118K  39%  GET SCAN3=   4492 16%
+   SOS CNT=     0  TOTAL=  2346K  84%  2346K  84%  GET REQS =   27520
+   FREE REQS=  27191  PAGES RELEASED=  21363  PAGE RELEASES=     0

```

The IXAS line command shows that level set 99 has been found and loaded. This also shows the status of system, active task, database, and buffer exception analysis as pending (PEND); they will become active (ON) with the next PreAlert cycle.

Activate a System Exception Definition

The IXVS line command is used to activate a system exception definition. In this example, storage pool usage is monitored. To activate an exception definition; the EXA=1 definition number keyword, STG>20 storage pool threshold keyword, and SET=ON keyword are entered through the IXVS line command. Additionally the SND=Y keyword requests that the terminal alarm is sounded whenever the exception is detected.

In normal processing, you would probably want to use a much higher value for the Storage Pool threshold. Twenty percent has been selected here only to demonstrate the functionality of IDMS Exception Analysis.

Type EXA=1, SET=ON, STG>20, SND=Y in the input area to the right of the IXVS line command, and press Enter. This activates Exception Analysis for Storage Pool usage.

Figure 217 • IXVS line command

```

COMMAND:_____ IDX1      15:02:35.3  90.305  37.91%  .TUT FOR TUTORIAL

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE   TASKS:  22   3.29/SEC

IXAS
+   LVL=99          SYS=ON   TSK=ON   LOG=          MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=    0   MAX= 255

IXVS EXA=1, SET=ON, STG>20, SND=Y
+   EXA=1  SET=ON  PRI=1  SND=Y  STG>20
IXDS
+   EXA=1  SET=ON  PRI=1  SND=Y  STG>20

STPL 0   STGPOOL 0   CONTAINS TYPES: ALL
+   SIZE=  2816K  USAGE    CURRENT    HWM          GET SCAN1=  16162 58%
+   CUSHION=    20K  LONG =  1228K  43%  1268K  45%  GET SCAN2=   6866 24%
+   STG WAIT=    0   SHORT=  1118K  39%  1118K  39%  GET SCAN3=   4492 16%
+   SOS CNT=    0   TOTAL=  2346K  84%  2346K  84%  GET REQS =  27520
+   FREE REQS=  27191  PAGES RELEASED=  21363  PAGE RELEASES=    0

```

The IXVS line command now shows the status of the Exception Keyword just entered. The IXDS line command shows all active Exception Keywords.

Press Enter again to update the display. PreAlert performs IDMS Exception Analysis for Storage Pool usage.

Figure 218 • IDMS Exception Analysis for Storage Pool

```

COMMAND:_____IDX1      15:02:41.6  90.305  43.04%  .TUT FOR TUTORIAL

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE  TASKS:  22  3.29/SEC
+   *** STORAGE POOL  0  84% FULL (S1) ***

IXAS
+   LVL=99          SYS=ON  TSK=ON  LOG=      MSG=Y ALWAYS DISPLAY
+                   DBX=ON  BFR=ON  MIN=    0  MAX= 255

IXVS
IXDS
+   EXA=1  SET=ON  PRI=1  SND=Y  STG>20

STPL 0  STGPOOL 0  CONTAINS TYPES: ALL
+   SIZE= 2816K  USAGE  CURRENT  HWM      GET SCAN1= 16162 58%
+   CUSHION= 20K  LONG = 1228K 43%  1268K 45%  GET SCAN2= 6866 24%
+   STG WAIT= 0  SHORT= 1118K 39%  1118K 39%  GET SCAN3= 4492 16%
+   SOS CNT= 0  TOTAL= 2346K 84%  2346K 84%  GET REQS = 27520
+   FREE REQS= 27191  PAGES RELEASED= 21363  PAGE RELEASES= 0

```

The IDMS line command displays the message and sounds the terminal alarm for the Storage Pool exception.

Note: _____

The STPL line command has been included here only to verify the Storage Pool usage; it is not required for Exception Analysis to be performed. Also, the total and Highwater Mark Values (HWM) have been highlighted.

Activate Screen Chaining

The IXVS line command is also used to activate the Screen Chaining options of a System Exception Definition. The Screen Chaining option is activated by entering the SCR= keyword to specify the target screen name. Two additional keywords provide further control over Screen Chaining:

- SDL=*nn* (Screen Chaining Delay); the exception must be repeated through *n* consecutive PreAlert cycles before Screen Chaining is invoked.
- SLM=*nn*, (Screen Chaining) will be terminated for this Exception Keyword after it has been invoked *n* times.

Type EXA=1, SCR=STGPOOL, SDL=2, SLM=1 to activate the Screen Chaining Option for Exception Definition, EXA=1. After the exception has occurred through two consecutive cycles, PreAlert schedules the STGPOOL screen for display to provide additional analysis of the Storage Pool. When the Screen Chaining has been completed, it is suspended since the limit count had been set to 1.

Figure 219 • IXVS line command—activate Screen Chaining

```

COMMAND:_____ IDX1      15:02:55.3  90.305  36.62%  .TUT FOR TUTORIAL

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE  TASKS:  22  3.29/SEC
+   *** STORAGE POOL  0  84% FULL (S1) ***

IXAS
+   LVL=99          SYS=ON   TSK=ON   LOG=      MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=    0  MAX= 255

IXVS EXA=1, SCR=STGPOOL, SDL=2, SLM=1
+   EXA=1 SET=ON PRI=1 SND=Y STG>20 SCR=STGPOOL SLM=1 SDL=2 (1)
IXDS
+   EXA=1 SET=ON PRI=1 SND=Y STG>20 SCR=STGPOOL SLM=1 SDL=2 (1)

STPL 0  STGPOOL 0  CONTAINS TYPES: ALL
+   SIZE= 2816K  USAGE   CURRENT   HWM          GET SCAN1= 16162 58%
+   CUSHION=   20K  LONG  = 1228K  43% 1268K  45%  GET SCAN2=  6866 24%
+   STG WAIT=    0  SHORT= 1118K  39% 1118K  39%  GET SCAN3=  4492 16%
+   SOS CNT=    0  TOTAL= 2346K  84% 2346K  84%  GET REQS = 27520
+   FREE REQS= 27191  PAGES RELEASED= 21363  PAGE RELEASES=  0

```

The IXDS line command now shows the updated status of the System Exception Definition.

Pressing Enter again updates the screen as shown in [Figure 220](#).

Figure 220 • Updated status of the System Exception Definition

```

COMMAND: _____ IDX1      15:03:08.5  90.305  41.74%  IDX SCREEN PENDING

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE  TASKS:  22  3.29/SEC
+   *** STORAGE POOL  0  84% FULL (S1) ***

IXAS
+   LVL=99          SYS=ON  TSK=ON  LOG=      MSG=Y ALWAYS DISPLAY
+                   DBX=ON  BFR=ON  MIN=    0  MAX= 255

IXVS
IXDS
+   EXA=1  SET=ON  PRI=1  SND=Y  STG>20  SCR=STGPOOL  SLM=1(1)  SDL=2

STPL 0  STGPOOL 0  CONTAINS TYPES: ALL
+   SIZE= 2816K  USAGE  CURRENT  HWM  GET SCAN1= 16162 58%
+   CUSHION= 20K  LONG = 1228K 43% 1268K 45%  GET SCAN2= 6866 24%
+   STG WAIT= 0  SHORT= 1118K 39% 1118K 39%  GET SCAN3= 4492 16%
+   SOS CNT= 0  TOTAL= 2346K 84% 2346K 84%  GET REQS = 27520
+   FREE REQS= 27191  PAGES RELEASED= 21363  PAGE RELEASES= 0

```

The exception has now been repeated through three consecutive PreAlert cycles, exceeding the delay count. PreAlert then schedules the display of the STGPOOL screen and shows the message `IDX SCREEN PENDING` in the upper right corner of the display.

The IXDS line command shows the limit counter as `SLM=1(1)`, implying that the Screen Chaining option for the Exception has reached the limit and terminates upon completion of the current Screen Chaining.

With the next PreAlert cycle, the requested target screen (STGPOOL) displays in response to the Screen Chaining option.

Figure 221 • STGPOOL screen

[illegible]

In the upper right corner of the display, PreAlert has added the message `IDX_SCREEN_ACTIVE`. This informs the user that this screen has been displayed in response to an exception. While this is being displayed, the Screen Chaining Option will be temporarily suspended until control has returned to the calling screen.

Screen Chaining Return

To return control to the calling screen, press PF3 (.END command). The calling screen updates and displays as shown in [Figure 222](#).

Figure 222 • Calling screen

```

COMMAND: _____IDX1      15:05:22.9  90.305  36.27%  .TUT FOR TUTORIAL

IDMS (jobname)      V1      IDMS INTERFACE ACTIVE  TASKS:  22  3.29/SEC
+   *** STORAGE POOL  0  84% FULL (S1) ***

IXAS
+   LVL=99          SYS=ON   TSK=ON   LOG=      MSG=Y ALWAYS DISPLAY
+                   DBX=ON   BFR=ON   MIN=     0  MAX= 255

IXVS
IXDS
+   EXA=1  SET=ON  PRI=1  SND=Y  STG>20  SCR=STGPOOL  SLM=1(1)  SDL=2

STPL 0  STGPOOL 0  CONTAINS TYPES: ALL
+   SIZE= 2816K  USAGE  CURRENT  HWM          GET SCAN1= 16162 58%
+   CUSHION= 20K  LONG = 1228K 43% 1268K 45%  GET SCAN2= 6866 24%
+   STG WAIT= 0   SHORT= 1118K 39% 1118K 39%  GET SCAN3= 4492 16%
+   SOS CNT= 0   TOTAL= 2346K 84% 2346K 84%  GET REQS = 27520
+   FREE REQS= 27191  PAGES RELEASED= 21363  PAGE RELEASES= 0

```

This completes the Screen Chaining option for the STGPOOL exception definition. The exception definition remains active and continues to monitor the Storage Pools for exceptions.

IDMS Exception Analysis Batch Definition Facility

The IDMS Exception Analysis Batch Definition facility allows you to pre-define the IDMS Exception Analysis Level Sets. This saves considerable time and effort over interactively tailoring the exception definitions. Exception definitions may be activated, assigned threshold values, and screen printing and chaining options.

The batch definition facility consists of macros that are assembled and linked into either the PreAlert step library or the SHOPMLIB load library. The macro specifications used to define the sample level set (level 99) have been included in the PreAlert control library as member IDXLVL99. The assemble and link JCL has also been included as member ASMIDX or ASMHIDX.

Note:

For the macros listed in the following text, pay attention to the exception text keywords specified for the message text (MSG=), command text (CMD=), and job (JOB=) options. For the value of these keywords, you must specify a double ampersand (&&) rather than a single ampersand (&), if you are defining level sets in batch. The Assembler compiler ignores the first ampersand.

If you are working with PreAlert online rather than in batch, you may specify the exception text keywords as they are listed (with a single ampersand) in the tables under these sections: ["Task Exception Text Keywords" on page 451](#), ["System Exception Text Keywords" on page 452](#), ["Buffer Exception Text Keywords" on page 455](#), and ["File Exception Text Keywords" on page 456](#).

IDXINIT - Exception Analysis Macro

The IDXINIT macro must be the first macro used in the level set. It builds the exception definitions tailored by the other macros. Keywords have been provided to activate or terminate IDMS System or Active Task Exception Analysis, and to specify the Message Display option. The default values are underscored.

Keyword	Function								
SYS= <u>ON</u> OFF	Activates/terminates IDMS System Exception Analysis.								
TASK= <u>ON</u> OFF	Activates/terminates Active Task Exception Analysis.								
DBX= <u>ON</u> OFF	Activates/terminates Database Exception Analysis.								
BFFR= <u>ON</u> OFF	Activates/terminates Buffer Exception Analysis.								
FILE= <u>ON</u> OFF	Activates/terminates File Exception Analysis.								
MSG= <u>Y</u> N D S	Specifies Message Display options, as follows: <table> <tr> <td>Y</td><td>Always display IDMS exception messages.</td></tr> <tr> <td>N</td><td>Never display IDMS exception messages.</td></tr> <tr> <td>D</td><td>Display IDMS messages during normal processing only (not during Screen Chaining displays).</td></tr> <tr> <td>S</td><td>Display IDMS messages during Screen Chaining only.</td></tr> </table>	Y	Always display IDMS exception messages.	N	Never display IDMS exception messages.	D	Display IDMS messages during normal processing only (not during Screen Chaining displays).	S	Display IDMS messages during Screen Chaining only.
Y	Always display IDMS exception messages.								
N	Never display IDMS exception messages.								
D	Display IDMS messages during normal processing only (not during Screen Chaining displays).								
S	Display IDMS messages during Screen Chaining only.								
LOGA=xxx	Specifies Statistics Logging (LOG=xxx) Option.								

Keyword	Function
TASKCT=20	Specifies number of Task Definitions to be built.
SYSCT=20	Specifies number of System Definitions to be built.
DBXCT=10	Specifies number of Database Definitions to be built.
BFFRCT=10	Specifies number of Buffer Definitions to be built.
FILECT=10	Specifies number of File Definitions to be built.
MINPRI=0	Specifies minimum Message Priority (0-255).
MAXPRI=255	Specifies maximum Message Priority (0-255).

IDXSYS - System Exception Definition Macro

The IDXSYS macro is used to build System Exception Definitions and to specify exception threshold and options. Below is a list of exception definition keywords. The EXA=*nnn* keyword is required to specify the exception definition number. Any default values are underscored.

Keyword	Function
EXA= <i>nnn</i>	System Exception Definition Number (required).
SET= <u>ON</u>|OFF	Activate or terminate the Exception Definition.

CONTROL OPTIONS - See ["IDMS Exception Analysis Control Options" on page 426](#) for further information.

Keyword	Function
TOD1=0	Time Of Day greater than value.
TOD2=0	Time Of Day less than value.
SYN= <u>N</u>|Y	Specify Synchronize with Statistics Interval Option
TIN=0	Specify Exception Time Interval.
LIM=0	Specify Exception Definition Limit.
TLM=0	Specify Time of Day Range Limit.
LMX=0	Specify Exception Definition Limit-x.
DLY=0	Specify Exception Definition Delay.
TDL=0	Specify Exception Time Delay.

Keyword	Function
PRI=1	Specify Exception Definition Priority.
SND= <u>N</u>|Y	Activate (Y) or terminate (N) the Terminal Sound Option.
AND= <u>N</u>|Y	Request AND Logic for Exception Thresholds.

LOGGING OPTION - See ["IDMS Exception Analysis Logging Option" on page 434](#) for further information.

Keyword	Function
LOGA=xxx	Specify Statistics Logging (LOG=xxx) option.

ASG-SERVER FACILITY OPTION - See ["IDMS Exception Analysis ASG-SERVER FACILITY Option" on page 435](#) for further information.

Keyword	Function
ASF=xxxxx	Specify four-character subsystem ID for the ASG-Server Facility

EXCEPTION OPTIONS - See ["IDMS System Exception Thresholds" on page 348](#) for further information.

IDXSYS Keyword	Exception Keyword	Exception Function
LOG1=0	LOG> <i>n</i>	Log file percent full
LOG2=0	LOG< <i>n</i>	
STG1=0	STG> <i>n</i>	Storage pool(s) percent full
STG2=0	STG< <i>n</i>	
JRN1=0	JRN> <i>n</i>	Journal percent full
JRN2=0	JRN< <i>n</i>	
JFC1=0	JFC> <i>n</i>	Journals full count
JFC2=0	JFC< <i>n</i>	
TCT1=0	TCT> <i>n</i>	Task count (percent of MAX-TASKS)
TCT2=0	TCT< <i>n</i>	
ABN1=0	ABN> <i>n</i>	Tasks abended count
ABN2=0	ABN< <i>n</i>	

IDXSYS Keyword	Exception Keyword	Exception Function
TRT1=0	TRT> <i>n</i>	Task rate (tasks per second)
TRT2=0	TRT< <i>n</i>	
ITR1=0	ITR> <i>n</i>	Interval task rate (tasks per second)
ITR2=0	ITR< <i>n</i>	
PRG1=0	PRG> <i>n</i>	24-bit program pool percent full
PRG2=0	PRG< <i>n</i>	
P311=0	P31> <i>n</i>	31-bit program pool percent full
P312=0	P31< <i>n</i>	
RNT1=0	RNT> <i>n</i>	24-bit reentrant pool percent full
RNT2=0	RNT< <i>n</i>	
R311=0	R31> <i>n</i>	31-bit reentrant pool percent full
R312=0	R31< <i>n</i>	
RLE1=0	RLE> <i>n</i>	RLEs percent used
RLE2=0	RLE< <i>n</i>	
RCE1=0	RCE> <i>n</i>	RCEs percent used
RCE2=0	RCE< <i>n</i>	
DPE1=0	DPE> <i>n</i>	DPEs percent use
DPE2=0	DPE< <i>n</i>	
ECB1=0	ECB> <i>n</i>	ECBs percent used
ECB2=0	ECB< <i>n</i>	
RUL1=0	RUL> <i>n</i>	Run unit lock percent (IDMS 10.2)
RUL2=0	RUL< <i>n</i>	Run unit lock count (IDMS 12.0)
LTL1=0	LTL> <i>n</i>	L-term lock count
LTL2=0	LTL< <i>n</i>	
CPU1=0	CPU> <i>n</i>	CPU Utilization percent
CPU2=0	CPU< <i>n</i>	
IOR1=0	IOR> <i>n</i>	Input and Output rate (per second)
IOR2=0	IOR< <i>n</i>	
PGR1=0	PGR> <i>n</i>	Page-in rate (per second)

IDSYS Keyword	Exception Keyword	Exception Function
PGR2=0	PGR< <i>n</i>	
ICP1=0	ICP> <i>n</i>	Interval CPU utilization percent
ICP2=0	ICP< <i>n</i>	
IIO1=0	IIO> <i>n</i>	Interval Input and Output rate (per second)
IIO2=0	IIO< <i>n</i>	
IPG1=0	IPG> <i>n</i>	Interval page-in rate (per second)
IPG2=0	IPG< <i>n</i>	
BWC1=0	BWC> <i>n</i>	Buffer waits occurred
BWC2=0	BWC< <i>n</i>	
IBW1=0	IBW> <i>n</i>	Interval buffer waits occurred
IBW2=0	IBW< <i>n</i>	
RSP1=0	RSP> <i>nnn</i>	Replication cache storage usage
RSP2=0	RSP< <i>nnn</i>	
RSH1=0	RSH> <i>nnn</i>	Replication cache storage HWM
RSH2=0	RSH< <i>nnn</i>	
RLT1=0	RLT> <i>n . nnnn</i>	Replication last commit latency
RLT2=0	RLT< <i>n . nnnn</i>	
RAD1=0	RAD> <i>n . nnnn</i>	Replication apply execution delay
RAD2=0	RAD< <i>n . nnnn</i>	
RAE1=0	RAE> <i>nnn</i>	Replication apply errors
RAE2=0	RAE< <i>nnn</i>	
MIS= <i>taskcode</i>	MIS= <i>taskcode</i>	Missing task analysis task code
OPR= <i>userid</i>	OPR= <i>userid</i>	Operator console user ID
SOS= <u>N</u>|Y		Short-on-storage condition exists
MXT= <u>N</u>|Y		Max-tasks condition exists
RWT= <u>N</u> /Y		IDMS region ready and waiting for CPU
PDE= <i>program name</i>		program definition errors
TDE= <i>task-code</i>		task definition thread count

COMMAND OPTIONS - See ["IDMS Exception Analysis Command Options" on page 443](#) for further information.

Keyword	Function
CMD= <i>'command image'</i>	Issue command in single quotes ('). Any ampersand (&) must be specified as a double ampersand (&&).
JOB= <i>member</i>	Member name for Batch Job option. Any ampersand (&) must be specified as a double ampersand (&&). You need not specify a double ampersand in any text within the member.
CDL= <i>nnn</i>	Command delay through <i>nnn</i> cycles.
CLM= <i>nnn</i>	Limit the number of times the command would be issued.

MESSAGE OPTIONS - See ["IDMS Exception Analysis Message Options" on page 437](#) for further information.

Keyword	Function
MSG= <i>'message'</i>	User defined Exception Message in single quotes ('). Any ampersand (&) must be specified as a double ampersand (&&).
CLR= <i>x</i>	Exception Message Color.
USR= <i>userid</i> s	Specify TSO user ID list for messages in single quotes (')
USO= <u>L</u>|N	User Send option, LOGON or NOW
CON= <u>N</u>|Y	Request Message sent to MVS Console
RTC= <i>route codes</i>	Console WTO Route codes
DSC= <i>desc codes</i>	Console WTO Descriptor Codes

SCREEN OPTIONS - See ["IDMS Exception Analysis Screen Options" on page 431](#) for further information.

Keyword	Function
PRT= <u>N</u>|Y	Activate Screen print option
SCR= <i>screen name</i>	Screen name for Screen Chaining option
SLM= <i>nnn</i>	Screen Chaining Limit count
SDL= <i>nnn</i>	Screen Chaining Delay count
FRZ= <u>N</u>|Y	Request Freeze Frame for Screen Chaining

IDXTASK - Task Exception Definition Macro

The IDXTASK macro is used to build Active Task Exception Definitions and to specify exception thresholds and options. Listed below are exception definition keywords. The EXA=*nnn* keyword is required to specify the exception definition number. Also, the TCD=*mask* is required to specify the task code mask for non-global Task Exception Definitions. Default values are underscored.

Keyword	Function
EXA= <i>nnn</i>	Task Exception Definition number
GBL=U|E|S	Global Task Definition type
TCD= <i>mask</i>	Task Code mask
TYP= <i>xxx</i>	Specify task type (Default = U)
	U= User/Online task
	S = System task
	E = External task (program name)
	J = Batch jobname
	C= Batch job class
	O= Online external task
SET= <u>ON</u>|OFF	Activate or terminate the Exception Definition

CONTROL OPTIONS - See ["IDMS Exception Analysis Control Options" on page 426](#) for further information.

Keyword	Function
TOD1=0	Time Of Day greater than value
TOD2=0	Time Of Day less than value
SYN= <u>N</u>|Y	Specify Synchronize with statistics interval option
TIN=0	Exception Time Interval
LIM=0	Exception Limit
TLM=0	Exception Time of Day Limit
LMX=0	Specify Exception Definition Limit- <i>x</i>
DLY=0	Exception Delay
TDL=0	Exception Time Delay
PRI=1	Specify Exception Definition Priority

Keyword	Function
SND= <u>N</u>|Y	Activate (Y) or terminate (N) the Terminal Sound Option
AND= <u>N</u>|Y	Request AND Logic
SUP= <u>N</u>|A|E	Supersede other Task Exception Definitions (A=Always, E=Exception Occurred, N=Never)

LOGGING OPTION - See ["IDMS Exception Analysis Logging Option" on page 434](#) for further information.

Keyword	Function
LOGA=xxx	Specify Statistics Logging (LOG = xxx) Option.

ASG-SERVER FACILITY OPTION - See ["IDMS Exception Analysis ASG-SERVER FACILITY Option" on page 435](#) for further information.

Keyword	Function
ASF=xxxx	Specify four-character subsystem ID for the ASG-Server Facility

COMMAND OPTIONS - See ["IDMS Exception Analysis Command Options" on page 443](#) for further information.

Keyword	Function
CMD='command image'	Issue command. Enclose in single quotes ('). Any ampersand (&) must be specified as a double ampersand (&&).
JOB=member name	Member name for Batch Job option. Any ampersand (&) must be specified as a double ampersand (&&). You need not specify a double ampersand (&&) in any text within the member.
CDL=nnn	Command delay through nnn cycles
CLM=nnn	Command limit to nnn commands
CMX=(aaa,bbb, ..)	Specify Command Exception codes. Multiple codes must be enclosed in parentheses.

ABEND OPTIONS - See ["IDMS Exception Analysis Abend Options" on page 457](#) for further information.

Keyword	Function
ABX= <u>N</u>|Y	Request Task Abend
ADL= <i>nnn</i>	Abend Delay Count
ALM= <i>nnn</i>	Abend Limit Count

EXCEPTION OPTIONS - See ["IDMS Active Task Exception Thresholds" on page 372](#) for further information.

IDXTASK Keyword	Exception Keyword	Function
ABE= <u>N</u>|Y	ABN= <u>N</u>|Y	Task Abend Analysis
TWT= <u>N</u>|Y	TWT= <u>N</u>|Y	Task ready and waiting
SYS= <i>n</i>	SYS= <i>n</i>	Related System Exception definition
ABC1=0	ABC> <i>n</i>	Abend request count
ABC2=0	ABC< <i>n</i>	
STG1=0	STG> <i>n</i>	Storage size (K bytes)
STG2=0	STG< <i>n</i>	
TTM1=0	TTM> <i>n</i>	Transaction time (seconds)
TTM2=0	TTM< <i>n</i>	
STM1=0.00	STM> <i>n . nn</i>	System Mode CPU time (seconds)
STM2=0.00	STM< <i>n . nn</i>	
UTM1=0.00	UTM> <i>n . nn</i>	User Mode CPU time (seconds)
UTM2=0.00	UTM< <i>n . nn</i>	
CPU1=0	CPU> <i>n</i>	CPU Utilization (percent)
CPU2=0	CPU< <i>n</i>	
WTM1=0	WTM> <i>n</i>	Current Wait Time (seconds)
WTM2=0	WTM< <i>n</i>	
IOW1=0	IOW> <i>n</i>	Input and Output Wait Time (seconds)
IOW2=0	IOW< <i>n</i>	
JRW1=0	JRW> <i>n</i>	Journal Input and Output Wait Time (seconds)

IDXTASK Keyword	Exception Keyword	Function
JRW2=0	JRW< <i>n</i>	
AWT1=0.0000	AWT> . <i>nnnn</i>	Average Wait Time per DB request
AWT2=0.0000	AWT< . <i>nnnn</i>	(seconds)
DBR1=0	DBR> <i>n</i>	Database Request count
DBR2=0	DBR< <i>n</i>	
DBX1=0	DBX> <i>n</i>	Database Request rate
DBX2=0	DBX< <i>n</i>	
IOR1=0	IOR> <i>n</i>	Input and Output Rate (pages/second)
IOR2=0	IOR< <i>n</i>	
PRR1=0	PRR> <i>n</i>	Database Pages Read Rate (per second)
PRR2=0	PRR< <i>n</i>	
PRC1=0	PRC> <i>n</i>	Database Pages Read Count
PRC2=0	PRC< <i>n</i>	
PDB1=0	PDB> <i>nnn</i>	Pages read per DB call ratio
PDB2=0	PDB< <i>nnn</i>	
LOC1=0	LOC> <i>n</i>	Current Lock Count
LOC2=0	LOC< <i>n</i>	
RCE1=0	RCE> <i>n</i>	RCEs in use count
RCE2=0	RCE< <i>n</i>	
VRO1=0	VRO> <i>n</i>	VIA Record Overflow count
VRO2=0	VRO< <i>n</i>	
CRO1=0	CRO> <i>n</i>	CALC Record Overflow count
CRO2=0	CRO< <i>n</i>	
OFP1=0	OFP> <i>n</i>	CALC or VIA record overflow percent
OFP2=0	OFP< <i>n</i>	
RRU1=0	RRU> <i>n</i>	Records updated, not committed count
RRU2=0	RRU< <i>n</i>	
RRC1=0	RRC> <i>n</i>	Records requested ratio
RRC2=0	RRC< <i>n</i>	

IDXTASK Keyword	Exception Keyword	Function
RRR1=0	RRR> <i>n</i>	Record request rate (per second)
RRR2=0	RRR< <i>n</i>	
SPL1=0	SPL> <i>n</i>	Index record splits count
SPL2=0	SPL< <i>n</i>	
SPW1=0	SPW> <i>n</i>	Index record spawns count
SPW2=0	SPW< <i>n</i>	
BUT1=0	BUT> <i>n</i>	Buffer Utilization Ratio
BUT2=0	BUT< <i>n</i>	
RUJ1=0	RUJ> <i>n</i>	Run unit journal images
RUJ2=0	RUJ< <i>n</i>	
ECB=(<i>aa,bb:cc, ...</i>)		ECB IDs. Multiple values (<i>aa</i>) or ranges (<i>bb:cc</i>) must be enclosed in parentheses.
ECB= <i>n</i>		

SCREEN OPTIONS - See ["IDMS Exception Analysis Screen Options" on page 431](#) for further information.

Keyword	Function
PRT= <u>N</u> /Y	Activate Screen print option
SCR= <i>screen name</i>	Screen name for Screen Chaining option
SLM= <i>nnn</i>	Screen Chaining Limit count
SDL= <i>nnn</i>	Screen Chaining Delay count
FRZ= <u>N</u>|Y	Request Freeze Frame for Screen Chaining

MESSAGE OPTIONS - See ["IDMS Exception Analysis Message Options" on page 437](#) for further information.

Keyword	Function
MSG= <i>'message'</i>	User defined Exception message in single quotes ('). Any ampersand (&) must be specified as a double ampersand (&&).
USR= <i>'userid's'</i>	Specify TSO user ID list in single quotes (')
USO = <u>L</u>|N	User Send option, LOGON or NOW
CON= <u>N</u>|Y	Request Message sent to MVS Console
RTC= <i>route codes</i>	Console WTO Route Codes
DSC= <i>desc codes</i>	Console WTO Descriptor Codes

IDXDBX - Database Exception Definition Macro

The IDXDX macro is used to build Database Exception Definitions. Listed below are exception definition keywords. The EXA=*nnn* keyword is required to specify the Exception Definition number. Default values are underscored.

Keyword	Function
EXA= <i>nnn</i>	Database Exception Definition number
DNM= <i>mask</i>	Area Name Mask
SEG= <i>mask</i>	Database Segment Name Mask
SYM= <i>mask</i>	Database Symbolic Name Mask
SET= <u>ON</u>|OFF	Activate or terminate the exception definition

One of the keywords DNM=*mask*, SEG=*mask*, or SYM=*mask* is required to identify the areas to be monitored.

CONTROL OPTIONS - See ["IDMS Exception Analysis Control Options" on page 426](#) for further information.

Keyword	Function
TOD1=0	Time of Day greater than value, TOD> <i>hhmm</i>
TOD2=0	Time of Day less than value, TOD< <i>hhmm</i>
SYN= <u>N</u>|Y	Specify Synchronize with Statistics Interval option
TIN=0	Exception Time Interval
LIM=0	Exception Limit

Keyword	Function
TLM=0	Exception Time of Day Limit
LMX=0	Exception Limit-x
DLY=0	Exception Delay
TDL=0	Exception Time Delay
PRI=1	Exception Priority
SND=N|Y	Activate or terminate Terminal Sound option
AND=N|Y	Request AND logic
SUP=N|A|E	Supersede option

LOGGING OPTION - See ["IDMS Exception Analysis Logging Option" on page 434](#) for further information.

Keyword	Function
LOGA=xxx	Statistics Logging (LOG = xx) option

ASG-SERVER FACILITY OPTION - See ["IDMS Exception Analysis ASG-SERVER FACILITY Option" on page 435](#) for further information.

Keyword	Function
ASF=xxxx	Four-character subsystem ID for the ASG-Server Facility

COMMAND OPTIONS - See ["IDMS Exception Analysis Command Options" on page 443](#) for further information.

Keyword	Function
CMD='command image '	Issue command enclosed in single quotes ('). Any ampersand (&) must be specified as a double ampersand (&&).
JOB=member name	Member name for Batch Job option. Any ampersand (&) must be specified as a double ampersand (&&). You need not specify a double ampersand in any text within the member.
CDL=nnn	Command delay through nnn cycles
CLM=nnn	Command limit to nnn commands

EXCEPTION OPTIONS - See ["IDMS Database Exception Thresholds" on page 390](#) for further information.

IDXDBX Keyword	Exception Keyword	Exception Threshold
OPS=xxx	OPS=xxx	Area Open Access Modes, IDMS 10.2 only
STA=x	STA=x	Area Status, Offline
WTS=N|Y	WTS=N|Y	Run units waiting for area
SYS=0	SYS=n	Related System Exception Definition
LOC1=0	LOC>n	Locks held for records in the area
LOC2=0	LOC<n	
RUO1=0	RUO>n	Run Units with area open count, IDMS 10.2 only
RUO2=0	RUO<n	
RUS1=0	RUS>n	Run Units with area in subschema count, IDMS 10.2 only
RUS2=0	RUS<n	
IOR1=0	IOR>n	Input and Output rate, per second
IOR2=0	IOR<n	
RRR1=0	RRR>n	Record request rate, per second
RRR2=0	RRR<n	
RFB1=0	RFB>n	Reads found in buffer percent
RFB2=0	RFB<n	
BUT1=0	BUT>n	Buffer Utilization ratio
BUT2=0	BUT<n	
RFE1=0	RFE>n	Reads found in cache or dataspace, IDMS 14.0 and up
RFE2=0	RFE<n	
EUT1=0	EUT>n	Cache or dataspace utilization ratio, IDMS 14.0 and up
EUT2=0	EUT<n	
RFS1=0	RFS>n	Reads found in storage, IDMS 14.0 and up
RFS2=0	RFS<n	

IDXDBX Keyword	Exception Keyword	Exception Threshold
SUT1=0	SUT> <i>n</i>	Storage utilization ratio, IDMS 14.0 and up
SUT2=0	SUT< <i>n</i>	
IIO1=0	IIO> <i>n</i>	Interval Input and Output rate, per second
IIO2=0	IIO< <i>n</i>	
IRR1=0	IRR> <i>n</i>	Interval record request rate, per second
IRR2=0	IRR< <i>n</i>	
IRF1=0	IRF> <i>n</i>	Interval reads found in buffer percent
IRF2=0	IRF< <i>n</i>	
IBU1=0	IBU> <i>n</i>	Interval buffer utilization ratio
IBU2=0	IBU< <i>n</i>	
IRE1=0	IRE> <i>n</i>	Interval reads found in cache or dataspace, IDMS 14.0 and up
IRE2=0	IRE< <i>n</i>	
IEU1=0	IEU> <i>n</i>	Interval cache or dataspace utilization ratio, IDMS 14.0 and up
IEU2=0	IEU< <i>n</i>	
IRS1=0	IRS> <i>n</i>	Interval reads found in storage, IDMS 14.0 and up
IRS2=0	IRS< <i>n</i>	
ISU1=0	ISU> <i>n</i>	Interval storage utilization ratio, IDMS 14.0 and up
ISU2=0	ISU< <i>n</i>	

SCREEN OPTIONS - See ["IDMS Exception Analysis Screen Options" on page 431](#) for further information.

Keyword	Function
PRT= <u>N</u>|Y	Activate Screen print option
SCR= <i>screen name</i>	Screen name for Screen Chaining option

Keyword	Function
SLM= <i>nnn</i>	Screen Chaining Limit count
SDL= <i>nnn</i>	Screen Chaining Delay count
FRZ= <u>N</u>|Y	Request Freeze Frame for Screen Chaining

MESSAGE OPTIONS - See ["IDMS Exception Analysis Message Options" on page 437](#) for further information.

Keyword	Function
MSG= ' <i>message</i> '	User defined Exception Message in single quotes ('). Any ampersand (&) must be specified as a double ampersand (&&).
CLR= <i>x</i>	Exception Message Color
USR= ' <i>userid</i> '	TSO user ID list in single quotes (')
USO= <u>L</u>|N	User Send option, LOGON or NOW
CON= <u>N</u>|Y	Send (WTO) message to MVS console
RTC= (<i>route codes</i>)	Console WTO Route Codes
DSC= (<i>desc codes</i>)	Console WTO Descriptor Codes

IDXBFFR - Buffer Exception Definition Macro

The IDXBFFR macro is used to build Buffer Exception Definitions. Listed below are exception definition keywords. The EXA= and BNM= keywords are required to specify the exception definition number and the Buffer Name Mask. Default values are underscored.

Keyword	Function
EXA= <i>nnn</i>	Buffer Exception Definition number (required)
BNM= <i>mask</i>	Buffer Name Mask (required)
SET= <u>ON</u>|OFF	Activate or terminate the exception definition

CONTROL OPTIONS - See ["IDMS Exception Analysis Control Options" on page 426](#) for further information.

Keyword	Function
TOD1=0	Time of Day greater than value, TOD> <i>hhmm</i>
TOD2=0	Time of Day less than value, TOD< <i>hhmm</i>
SYN= <u>N</u>|Y	Specify Synchronize with statistics interval option
TIN=0	Exception Time Interval
LIM=0	Exception Limit
TLM=0	Exception Time of Day Limit
LMX=0	Exception Limit-x
DLY=0	Exception Delay
TDL=0	Exception Time Delay
PRI=1	Exception Priority
SND= <u>N</u>|Y	Activate or terminate Terminal Sound Option
AND= <u>N</u>|Y	Request AND logic
SUP= <u>N</u>|A|E	Supersede Option

LOGGING OPTION - See ["IDMS Exception Analysis Logging Option" on page 434](#) for further information.

Keyword	Function
LOGA= <i>xxx</i>	Specify Statistics Logging (LOG= <i>x</i>) option

ASG-SERVER FACILITY OPTION - See ["IDMS Exception Analysis ASG-SERVER FACILITY Option" on page 435](#) for further information.

Keyword	Function
ASF= <i>xxxx</i>	Four-character subsystem ID for the ASG-Server Facility

COMMAND OPTIONS - See ["IDMS Exception Analysis Command Options" on page 443](#) for further information.

Keyword	Function
CMD= <i>'command image'</i>	Issue command in single quotes ('). Any ampersand (&) must be specified as a double ampersand (&&).
JOB= <i>member name</i>	Member name for Batch Job option. Any ampersand (&) must be specified as a double ampersand (&&). You need not specify a double ampersand in any text within the member.
CDL= <i>nnn</i>	Command delay through <i>nnn</i> cycles
CLM= <i>nnn</i>	Command limit to <i>nnn</i> commands

EXCEPTION OPTIONS - See ["IDMS Buffer Exception Thresholds" on page 406](#) for further information.

IDXBFFR Keyword	Exception Keyword	Exception Threshold
IOR1=0	IOR> <i>n</i>	Input and Output Rate (per second)
IOR2=0	IOR< <i>n</i>	
RRR1=0	RRR> <i>n</i>	Record Request Rate (per second)
RRR2=0	RRR< <i>n</i>	
RFB1=0	RFB> <i>n</i>	Reads Found in Buffer percent
RFB2=0	RFB< <i>n</i>	
BUT1=0	BUT> <i>n</i>	Buffer Utilization ratio
BUT2=0	BUT< <i>n</i>	
RFC1=0	RFC> <i>n</i>	Reads found in cache percent, IDMS 14.0 and up
RFC2=0	RFC< <i>n</i>	
CUT1=0	CUT> <i>n</i>	Cache utilization ratio, IDMS 14.0 and up
CUT2=0	CUT< <i>n</i>	
IIO1=0	IIO> <i>n</i>	Interval Input and Output rate (per second)
IIO2=0	IIO< <i>n</i>	
IIR1=0	IIR> <i>n</i>	Interval Record Request rate (per second)

IDXBFFR Keyword	Exception Keyword	Exception Threshold
IIR2=0	IRR< <i>n</i>	
IRF1=0	IRF> <i>n</i>	Interval Reads Found in buffer percent
IRF2=0	IRF< <i>n</i>	
IBU1=0	IBU> <i>n</i>	Interval Buffer Utilization ratio
IBU2=0	IBU< <i>n</i>	
IRC1=0	IRC> <i>n</i>	Interval reads found in cache percent, IDMS 14.0 and up
IRC2=0	IRC< <i>n</i>	
ICU1=0	ICU> <i>n</i>	Interval cache utilization ration, IDMS 14.0 and up
ICU2=0	ICU< <i>n</i>	
BWC1=0	BWC> <i>n</i>	Buffer waits that occurred
BWC2=0	BWC< <i>n</i>	
IBW1=0	IBW> <i>n</i>	Interval buffer waits that occurred
IBW2=0	IBW< <i>n</i>	
SYS=0	SYS= <i>n</i>	Related System Exception Definition number

SCREEN OPTIONS - See ["IDMS Exception Analysis Screen Options" on page 431](#) for further information.

Keyword	Function
PRT= <u>N</u>|Y	Activate Screen print option
SCR= <i>screen name</i>	Screen name for Screen Chaining option
SLM= <i>nnn</i>	Screen Chaining Limit count
SDL= <i>nnn</i>	Screen Chaining Delay count
FRZ= <u>N</u>|Y	Request Freeze Frame for Screen Chaining

MESSAGE OPTIONS - See ["IDMS Exception Analysis Message Options" on page 437](#) for further information.

Keyword	Function
MSG= <i>'message'</i>	User defined Exception Message in single quotes ('). Any ampersand (&) must be specified as a double ampersand (&&).
CLR= <i>x</i>	Exception Message Color
USR= <i>'userid's'</i>	TSO user ID list in single quotes (')
USO= <u>L</u>|N	User Send option, LOGON or NOW
CON= <u>N</u>|Y	Send (WTO) message to MVS console
RTC= (<i>route codes</i>)	Console WTO Route Codes
DSC= (<i>desc codes</i>)	Console WTO Descriptor Codes

IDXFILE - File Exception Definition Macro

The IDXFILE macro is used to build File Exception Definitions. Listed below are exception definition keywords. The EXA=*nnn* keyword is required to specify the exception definition number. Default values are underscored.

Keyword	Function
EXA= <i>nnn</i>	File exception definition number
FNM= <i>mask</i>	File name mask
SET= <u>ON</u>|OFF	Activate or terminate the exception definition

CONTROL OPTION - See ["IDMS Exception Analysis Control Options" on page 426](#) for further information.

Keyword	Function
TOD1=0	Time of Day greater than value, TOD> <i>hhmm</i>
TOD2=0	Time of Day less than value, TOD< <i>hhmm</i>
SYN= <u>N</u>|Y	Specify synchronize with statistics interval option
TIN=0	Exception Time Interval
LIM=0	Exception Limit
TLM=0	Exception Time of Day Limit
LMX=0	Exception Limit- <i>x</i>

Keyword	Function
DLY=0	Exception Delay
TDL=0	Exception Time Delay
PRI=1	Exception Priority
SND= <u>N</u>|Y	Specify Terminal Sound Option
AND= <u>N</u>|Y	Specify AND logic
SUP= <u>N</u>|A|E	Specify supersede option

LOGGING OPTION - See ["IDMS Exception Analysis Logging Option" on page 434](#) for further information.

Keyword	Function
LOGA=xxx	Statistics Logging (LOG=xx) option

ASG-SERVER FACILITY OPTION - See ["IDMS Exception Analysis ASG-SERVER FACILITY Option" on page 435](#) for further information.

Keyword	Function
ASF=xxxx	Four character subsystem ID for the ASG-Server Facility

COMMAND OPTION - See ["IDMS Exception Analysis Control Options" on page 426](#) for further information.

Keyword	Function
CMD='command image'	Specify command text, enclose in single quotes. Any ampersand (&) must be specified as a double ampersand (&&).
JOB= <i>member name</i>	Member name for batch job option.
CDL= <i>nnn</i>	Command delay through <i>nnn</i> cycles
CLM= <i>nnn</i>	Command limit to <i>nnn</i> commands.

EXCEPTION OPTIONS - See ["IDMS File Exception Analysis Thresholds" on page 418](#) for further information.

IDXFILE Keyword	Exception Keyword	Function
SYS=0	SYS= <i>n</i>	Related system exception definition
IOR1=0	IOR>> <i>n</i>	Input and Output rate, per second
IOR2=0	IOR< <i>n</i>	
RRR1=0	RRR>> <i>n</i>	Record request rate, per second
RRR2=0	RRR< <i>n</i>	
RFB1=0	RFB>> <i>n</i>	Reads found in buffer percent
RFB2=0	RFB< <i>n</i>	
BUT1=0	BUT>> <i>n</i>	Buffer utilization ratio
BUT2=0	BUT< <i>n</i>	
RFE1=0	RFE>> <i>n</i>	Reads found in cache or dataspace percent
RFE2=0	RFE< <i>n</i>	
EUT1=0	EUT>> <i>n</i>	Cache or dataspace utilization ratio
EUT2=0	EUT< <i>n</i>	
RFS1=0	RFS>> <i>n</i>	Reads found in storage percent
RFS2=0	RFS< <i>n</i>	
SUT1=0	SUT>> <i>n</i>	Storage utilization ratio
SUT2=0	SUT< <i>n</i>	
IIO1=0	IIO>> <i>n</i>	Interval Input and Output rate, per second
IIO2=0	IIO< <i>n</i>	
IRR1=0	IRR>> <i>n</i>	Interval record request rate, per second
IRR2=0	IRR< <i>n</i>	
IRF1=0	IRF>> <i>n</i>	Interval reads found in buffer percent
IRF2=0	IRF< <i>n</i>	
IBU1=0	IBU>> <i>n</i>	Interval buffer utilization ratio
IBU2=0	IBU< <i>n</i>	
IRE1=0	IRE>> <i>n</i>	Interval reads found in cache or dataspace percent
IRE2=0	IRE< <i>n</i>	

IDXFILE Keyword	Exception Keyword	Function
IEU1=0	IEU> <i>n</i>	Interval cache or dataspace utilization ratio,
IEU2=0	IEU< <i>n</i>	
IRS1=0	IRS> <i>n</i>	Interval reads found in storage percent
IRS2=0	IRS< <i>n</i>	
ISU1=0	ISU> <i>n</i>	Interval storage utilization ratio
ISU2=0	ISU< <i>n</i>	

SCREEN OPTIONS - See ["IDMS Exception Analysis Screen Options" on page 431](#) for further information.

Keyword	Function
PRT= <u>N</u>|Y	Specify screen print option
SCR= <i>screen name</i>	Screen name for screen chaining option
SLM= <i>nnn</i>	Screen chaining limit
SDL= <i>nnn</i>	Screen chaining delay
FRZ= <u>N</u>|Y	Request freeze frame for screen chaining

MESSAGE OPTIONS - See ["IDMS Exception Analysis Message Options" on page 437](#) for further information.

Keyword	Function
MSG='message text'	User defined message in single quotes ('). Any ampersand (&) must be specified as a double ampersand (&&).
CLR=X	Exception message color
USR='userid list'	TSO User ID list in single quotes (').
USO= <u>L</u>|N	User send option, Logon or Now
CON= <u>N</u>|Y	Send (WTO) message to console
RTC=(route codes)	Console WTO route codes
DSC=(desc codes)	Console WTO descriptor codes

IDMS Exception Analysis - Sample Level Set

```
IDXINIT SYS=ON,TASK=ON,MSG=Y

*      IDMS SYSTEM DEFINITIONS
      IDXSYS EXA=1,LOG1=70,SET=ON
      IDXSYS EXA=2,JFC1=2,SET=ON
      IDXSYS EXA=3,RLE1=70,SET=OFF
      IDXSYS EXA=4,RCE1=70,SET=OFF
      IDXSYS EXA=5,DPE1=70,SET=OFF
      IDXSYS EXA=6,ECB1=90,SET=ON
      IDXSYS EXA=7,CPU1=75,IOR2=2,SET=ON,AND=Y

*      GLOBAL TASK DEFINITIONS
      IDXTASK GBL=S,SET=OFF
      IDXTASK GBL=E,SET=ON,LOC1=40,TTM1=1800

      IDXTASK GBL=U,SET=ON,TTM1=30,STM1=5,UTM1=3,ABE=Y,
      DBR1=100,VRO1=10,CRO1=10,STG1=50

*      GENERIC TASK DEFINITIONS
      IDXTASK EXA=1,TCD=AP*,TYP=U,SET=ON,TTM1=10,STG1=>100
      IDXTASK EXA=2,TCD=MFG*,TYP=U,SET=ON,TTM1=60,LOC1=20,STG1=300
      IDXTASK EXA=3,TCD=TEST*,TYP=U,SET=OFF

*      SPECIFIC TASK DEFINITIONS
      IDXTASK EXA=4,TCD=OPER,SET=OFF      (ELIMINATE FROM ANY ANALYSIS)

*      IDMS DATABASE DEFINITIONS
      IDXDBX EXA=1,DNM=ORDER-MAST*,SET=ON,IOR1=5,LOC1=20
      IDXDBX EXA=2,DNM=MFG-DOM*,SET=ON,RRR1=10,RFB1=80

*      IDMS BUFFER DEFINITIONS
      IDXBFFR EXA=1,BNM=ORDERS-BUFF,SET=ON,IOR1=10
      IDXBFFR EXA=2,BNM=BOM-MASTER*,SET=ON,RFB1=90

END
```

16

Local Mode Interface

PreAlert can monitor IDMS local mode batch jobs that are using SIRF to collect run unit statistics. Within the local mode jobs, SIRF provides an anchor into the job which PreAlert uses to locate the IDMS statistics.

Each run unit or transaction within a local mode job is monitored as a separate element. When an IDMS 10.2 local mode has multiple run units executing, each run unit is monitored separately. For an IDMS 12.0 local mode job with multiple transactions, each transaction is monitored separately.

For IDMS 10.2 local mode jobs, PreAlert monitors the individual run units within the job. When multiple run units have been started, PreAlert monitors each run unit separately.

For IDMS 12.0 local mode jobs, PreAlert provides transaction level statistics. The statistics for individual run units are combined into a single set of transaction statistics. PreAlert monitors the transaction statistics, not the individual run unit statistics.

Throughout this chapter, the term local mode element refers to either an IDMS 10.2 local mode run unit or an IDMS 12.0 local mode transaction.

This chapter discusses these subjects:

Local Mode Summary	502
Local Mode Selection	502
Local Mode Horizontal Display	505
Local Mode Detailed Display	508
Local Mode Display Line Commands	512
Local Mode Database Statistics	514
Local Mode Indexing Statistics	515
Local Mode SQL Statistics	516

Local Mode Summary

The SIRF line command ([Figure 223](#)) provides a summary of the local mode jobs found by the PreAlert/SIRF interface. This summary indicates the number of IDMS 10.2 jobs and their run units and the number of IDMS 12.0 jobs and their transactions:

Figure 223 • SIRF line command

```

COMMAND:          SIRFLM      11:51:21.1  93.334 101.00% .TUT FOR TUTORIAL
.                SIRF - IDMS Local Mode interface

SIRF
+   SIRF-IDMS 10.2 LOCAL MODE JOBS,    1 RUN UNITS    1
+   SIRF-IDMS 12.0 LOCAL MODE JOBS,    1 TRANSACTIONS  1

.  SIRF - IDMS Local Mode jobs data
LSEL
LJOB DEVBERE2 DEVBERE1
LPGM SIRFTEST SIRFTEST
LIOR   19.06   14.24
LRFB   95.37   82.58
=====

.  SIRF - IDMS Local Mode jobs, horizontal displays
LMHL 1 1/4 Tr/RU ID Program   Date      Time      I/O Rt Rec Req Buff Ut   Buff%
+ DEVBERE2          1 SIRFTEST 93-11-30 11:50:59   19.06 428.05  21.62  95.3
+ DEVBERE1          1 SIRFTEST 11/30/93 11:50:41   14.24  80.63   5.74  82.5
LMHL 2 2/4 Tr/RU ID   DB Rq Page Rq   Rec Rq Rec Cur Page Rd Page Wr O-flow%
+ DEVBERE2          1   4197  1692  4196  4194    194    0
+ DEVBERE1          1   1760  2128  1855  1756    323    0
LMHL 3 3/4 Tr/RU ID SQL Cmd Row Fet Row Ins Row Upd Row Del   Sorts   Rows
+ DEVBERE2          1      0      0      0      0      0      0      0
+ DEVBERE1          1
LMHL 4 4/4 Tr/RU ID   Splits  Spawns SR8s Ersd SR7s Ersd Searches  Levels Orphans

```

Normally, each local mode job will only have a single run unit or transaction. A job can have multiple run units or transactions. The SIRF line command indicates the number of local mode jobs, either IDMS 10.2 or 12.0, and number of run units or transactions located.

Local Mode Selection

The LSEL line command is used to specify selection criteria which are then used by the LJOB or LMHL line commands to select local mode jobs for display. The LSEL line command allows you to restrict the displayed local mode elements to only those that match specified criteria.

The LSEL line command is followed by the LJOB or LMHL line command. The LSEL line command specifies the selection criteria. The LJOB line command selects the local mode elements and displays the job name using the traditional vertical display. LMHL selects the elements and displays local mode data using the horizontal display format. Refer to ["Local Mode Display Line Commands" on page 512](#) for a description of the LJOB line command. Refer to ["Local Mode Horizontal Display" on page 505](#) for a description of the LMHL line command.

This table describes the keywords that can be specified with the LSEL line command.

Keyword	Function
TYP=xxx	Specifies local mode element type, as follows: 10.2 Specifies IDMS 10.2 local mode run units 12.0 Specifies IDMS 12.0 local mode transactions
JOB=mask (s)	Specifies one to eight job name masks. Local mode elements are selected by their job name. The LJOB line command displays the job name.
PGM=mask (s)	Specifies one to eight program name masks. Local mode elements are selected by program name. The LPGM line command displays the program name.
REP=Y|N	Specifies the Auto-repeat option. When the number of local mode elements selected for display exceeds the number that can be displayed across the screen, the line commands are repeated until all selected local mode elements are displayed. Refer to "Auto-repeat Option" on page 27 for further information on this option.
SRT=xxx	Specifies the sort field, default sequence.
SRT<xxx	Specifies the sort field, ascending sequence.
SRT>xxx	Specifies the sort field, descending sequence.

Possible sort field keywords are as follows:

Keyword	Sort Field
LJOB	Job name
LPGM	Program name
LIOR	Page input and output rate
LIOC	Page input and output count
LRQC	Records requested count
LRQR	Records requested rate
LBUT	Buffer utilization ratio
LRFB	Reads found in buffer percent

Figure 224 • Local Mode Selection

```

COMMAND: _____ SIRFLM      11:51:21.1  93.334 101.00% .TUT FOR TUTORIAL
.          SIRF - IDMS Local Mode interface

SIRF
+   SIRF-IDMS 10.2 LOCAL MODE JOBS,    1 RUN UNITS    1
+   SIRF-IDMS 12.0 LOCAL MODE JOBS,    1 TRANSACTIONS  1

.  SIRF - IDMS Local Mode jobs data
LSEL JOB=DEVBERE2
LJOB DEVBERE2
LPGM SIRFTEST
LIOR   19.06
LRFB   95.37
=====

.  SIRF - IDMS Local Mode jobs, horizontal displays
LMHL 1 1/4 Tr/RU ID Program   Date    Time    I/O Rt Rec Req Buff Ut   Buff%
+ DEVBERE2          1 SIRFTEST 93-11-30 11:50:59  19.06 428.05 21.62 95.3
LMHL 2 2/4 Tr/RU ID  DB Rq Page Rq  Rec Rq Rec Cur Page Rd Page Wr O-flow%
+ DEVBERE2          1    4197   1692   4196   4194    194    0
LMHL 3 3/4 Tr/RU ID SQL Cmd Row Fet Row Ins Row Upd Row Del   Sorts   Rows
+ DEVBERE2          1      0      0      0      0      0      0      0
LMHL 4 4/4 Tr/RU ID  Splits  Spawns SR8s Ersd SR7s Ersd Searchs Levels Orphans

```

In the example shown in [Figure 224](#), the JOB=DEVBERE2 keyword was specified with the LSEL line command. This keyword has caused only statistics for the DEVBERE2 local mode job to be selected for display. The selection keyword applies to both the vertical display (line commands LJOB, LPGM, LIOR, and LRFB) and to the LMHL horizontal displays (line command LMHL).

Local Mode Horizontal Display

Information for local mode elements may be displayed in a horizontal format. That is, the displays follow a more traditional report format. The information for each local mode element is displayed on a single line, with further local mode elements displayed on additional lines.

The LMHL line command will display one of four fixed formats. A format number, 1 through 4, may be specified with the LMHL line command to display statistics in the appropriate format. When a format number is not specified, a default number is selected. This default number may be changed by using the .RIGHT control command, to add 1 to the format number, or .LEFT control command, to subtract 1.

The local mode elements to be displayed by the LMHL line command can be selected by specifying the LSEL line command with the appropriate selection keywords. These keywords are described in ["Local Mode Selection" on page 502](#).

[Figure 225](#) shows a display of the LSEL line command specified along with the LMHL line command:

Figure 225 • LSEL and LMHL line command

```
COMMAND:_____ SIRFLM      11:51:21.1  93.334 101.00% .TUT FOR TUTORIAL
.          SIRF - IDMS Local Mode interface

SIRF
+   SIRF-IDMS 10.2 LOCAL MODE JOBS,    1 RUN UNITS    1
+   SIRF-IDMS 12.0 LOCAL MODE JOBS,    1 TRANSACTIONS  1

.   SIRF - IDMS Local Mode jobs data
LSEL
LJOB DEVBERE2 DEVBERE1
LPGM SIRFTEST SIRFTEST
LIOR   19.06   14.24
LRFB   95.37   82.58
=====

.   SIRF - IDMS Local Mode jobs, horizontal displays
LMHL 1 1/4 Tr/RU ID Program   Date      Time      I/O Rt Rec Req Buff Ut   Buff%
+ DEVBERE2          1 SIRFTEST 93-11-30 11:50:59   19.06 428.05 21.62 95.3
+ DEVBERE1          1 SIRFTEST 11/30/93 11:50:41   14.24  80.63   5.74 82.5
LMHL 2 2/4 Tr/RU ID   DB Rq Page Rq   Rec Rq Rec Cur Page Rd Page Wr O-flow%
+ DEVBERE2          1    4197   1692   4196   4194    194    0
+ DEVBERE1          1    1760   2128   1855   1756    323    0
LMHL 3 3/4 Tr/RU ID SQL Cmd Row Fet Row Ins Row Upd Row Del   Sorts   Rows
+ DEVBERE2          1      0      0      0      0      0      0      0
+ DEVBERE1          1
LMHL 4 4/4 Tr/RU ID   Splits  Spawns SR8s Ersd SR7s Ersd Searches  Levels Orphans
```

The four formats produced by the LMHL line command are shown in [Figure 225](#). The following text describes these formats.

LMHL Format 1:

Column Heading	Description
Tr/RU ID	10.2 Run unit ID or 12.0 Transaction ID
Program	Program name
Date	Date local mode element began
Time	Time local mode element began
I/O Rt	Page I/O rate, pages per second
Rec Req	Record request rate, records per second
Buff Ut	Buffer utilization ratio
Buff%	Reads found in buffer percentage

LMHL Format 2:

Column Heading	Description
Tr/RU ID	10.2 Run unit ID or 12.0 Transaction ID
DB Req	Database request count
Page Rq	Pages requested count
Rec Rq	Records requested count
Rec Cu	Pages current of run unit count
Page Rd	Pages read count
Page Wr	Pages written count
O-flow%	CALC or VIA record overflow percentage

LMHL Format 3:

(No statistics displayed for 10.2 local mode run units)

Column Heading	Description
Tr/RU ID	10.2 Run unit ID or 12.0 Transaction ID
SQL Cmd	SQL commands executed
Row Fet	Rows fetched count
Row Ins	Rows inserted count
Row Upd	Rows updated count

Column Heading	Description
Row Del	Rows deleted count
Sorts	Sorts performed count
Rows	Total rows sorted

LMHL Format 4:

Column Heading	Description
Tr/RU ID	10.2 Run unit ID or 12.0 Transaction ID
Splits	Index record split count
Spawns	Index record spawn count
SR8s	SR8 records stored count
Ersd	SR8 records erased count
SR7s	SR7 records stored count
Ersd	SR7 records erased count
Searchs	Index searches performed count
Levels	Index levels searched count
Orphans	Orphan records adopted count

Local Mode Detailed Display

As shown in [Figure 226](#), the LMZZ line command provides a detailed display of the statistics for a single local mode element. The local mode element is identified through the SPY feature. The SPY feature must be used to identify the local mode element to be displayed by LMZZ. The SPY feature uses cursor placement to identify the local mode element. Refer to ["SPY Feature" on page 34](#) for guidelines on using .SPY.

Figure 226 • LMZZ line command

```

COMMAND:_____SPYSLM      11:51:42.4  93.334 100.00% SPY SCREEN FROZEN
.  SIRF-IDMS Local Mode Job detailed display for .SPY feature.

LMZZ Job: DEVBERE1  Date: 11/30/93   RU ID:           1
+  Prog: SIRFTEST  Time: 11:50:41   Verb: 11FIND N M   0300
+  Pg Req:   2128    93.34   Rec Req:   1855    80.63   Req-Cur Ratio:   1.05
+  Read:     323    14.24   Rec Cur:   1756    77.89   Buffer Util:    5.74
+  Write:      0      .00   DB Call:   1760    77.89   Found in Buff:  82.58

.  To select another job for LMZZ, enter .SPY after COMMAND:
.  place the cursor on the desired task, and press enter.

LSEL
LMHL   1/4 Tr/RU ID Program      Date      Time      I/O Rt Rec Req Buff Ut  Buff%
+  DEVBERE2           1 SIRFTEST  93-11-30 11:50:59   19.06 428.05  21.62  95.3
+  DEVBERE1           1 SIRFTEST 11/30/93 11:50:41   14.24  80.63   5.74  82.5

```

In the example above, the SPYSLM screen was displayed after the .SPY command identified the DEVBERE2 local mode job. The LMZZ line command displays the detailed statistics for the local mode element, as described in the following text.

Line 1

Field	Description
JOB	Name of local mode job
Date	Date on which local mode element began
RU ID	IDMS 10.2, run unit ID
Trn ID	IDMS 12.0, transaction ID

Line 2

Field	Description
Prog	Name of program being executed
Time	Time at which local mode element began
Verb	IDMS 10.2, current verb and run unit status

Line 3

Field	Description
Pg Req	Page request total and rate
Rec Req	Record request total and rate
Rec-Cur Ratio	Records requested to current ratio

Line 4

Field	Description
Read	Pages read total and rate since the beginning of the current statistics interval
Rec Cur	Records current of run unit total and rate
Buffer Util	Buffer utilization ratio

Line 5

Field	Description
Write	Pages written total and rate
DB Call	Database request total and rate
Found in Buff	Percentage reads found in buffer

Note:

Lines 6 and 7 display only when CALC or VIA records have been stored.

Line 6

Field	Description
CALC Target	CALC records stored on target page
Overflow	CALC record overflows
C/V O-flow	Percentage CALC or VIA record overflows

Line 7

Field	Description
VIA Target	VIA records stored on target page
Overflow	VIA record overflows

Note: _____
Line 8 displays only when journal records have been written.

Line 8

Field	Description
Jrnl Before	Journal before images stored
Jrnl After	Journal after images stored
Not Committed	Records updated, not committed

Note: _____
Line 9 displays only when locks are maintained.

Line 9

Field	Description
Locks Req	Locks requested total
Select Locks	IDMS 10.2, select locks held
Update Locks	IDMS 10.2, update locks held
Share Lock	IDMS 12.0, share locks held
NonShare Lock	IDMS 12.0, non-share locks held

Note: _____
Lines 10 through 13 display only when indexed records are used.

Line 10

Field	Description
SR8 Splits	SR8 index record splits total
SR8s Stored	SR8 index records stored total
SR7s Stored	SR7 index records stored total

Line 11

Field	Description
SR8 Spawns	SR8 index record spawns total
SR8s Erased	SR8 index records erased total
SR7s Erased	SR7 index records erased total

Line 12

Field	Description
Searches	Index searches count
Best Case	Lowest number of levels for a search
Worst Case	Highest number of levels for a search

Line 13

Field	Description
Levels	Total number of levels searched, all searches
Orphans Adp	Number of orphan records adopted

Note: _____

Lines 14 thru 17 display only when SQL commands have been used.

Line 14

Field	Description
SQL Cmds	Number of SQL commands executed
Rows Fet	Number of rows fetched
Rows Ins	Number of rows inserted (added)

Line 15

Field	Description
Recomp	Number of recompiles performed
Rows Del	Number of rows deleted
Rows Upd	Number of rows updated

Line 16

Field	Description
Sort Cmds	Number of sorts performed
Rows Sortd	Number of rows sorted, all sorts

Line 17

Field	Description
Min Rows	Minimum number of rows sorted in a sort
Max Rows	Maximum number of rows sorted in a sort

Local Mode Display Line Commands

The local mode display line commands are used to display specific information for the local mode elements. The LJOB line command is required for any display of local mode data. This command may be followed by any of the other local mode display line commands.

The LSEL line command usually precedes the LJOB line command. The LSEL line command allows selection keywords to be specified. These keywords select only certain local mode elements for display, as shown in [Figure 227](#). Refer to "[Local Mode Selection](#)" on page 502 for more information on LSEL.

Figure 227 • LSEL line command

```

COMMAND:_____ SIRFLM      11:51:21.1  93.334 101.00% .TUT FOR TUTORIAL
.          SIRF - IDMS Local Mode interface

SIRF
+   SIRF-IDMS 10.2 LOCAL MODE JOBS,      1 RUN UNITS      1
+   SIRF-IDMS 12.0 LOCAL MODE JOBS,      1 TRANSACTIONS   1

.   SIRF - IDMS Local Mode jobs data
LSEL
LJOB DEVBERE2 DEVBERE1
LPGM SIRFTEST SIRFTEST
LIOR      19.06      14.24
LRFB      95.37      82.58
LBUT      21.62       5.74

.   Line commands added by user...
LRQR      428.05      80.63
LRQC       4196       1756
LRFB      95.37      82.58
=====

```

In [Figure 227](#), the LRQR, LRQC, and LBUT line commands were added to the SRIFLM screen. Any local mode display line command may be added after the LJOB line command.

These display line commands are described in the following text.

Command	Display
LJOB	Jobname executing the local mode element. Overflow indicator (+) available.
LMID	Run Unit ID (10.2) or Transaction ID (12.0)
LPGM	Program name
LDAT	Date local mode element began
LTIM	Time local mode element began
LRST	Run unit status (10.2 only)
LVRB	Current verb (10.2 only)

Local Mode Database Statistics

The following pairs of line commands respectively display two types of statistics for each of the described items related to local mode database activity. The first command displays the total count or number of occurrences, while the second command displays the current rate.

Command To Display Count	Command To Display Rate	Description Of Item For Which Statistics Are Being Displayed
LDBC	LDBR	Database calls
LIOC	LIOR	Page inputs and outputs
LPQC	LPQR	Page requests
LPRC	LPRR	Pages read
LWRC	LWRR	Pages written
LRQC	LRQR	Record requests
LRUC	LRUR	Records current of run unit

The following commands provide simple displays of local mode database statistics:

Command	Display
LBUT	Buffer utilization ratio
LRCR	Records request-current ratio
LRNC	Records not committed
LCRO	CALC records overflow count
LCRT	CALC records target count
LVRO	VIA records overflow count
LVRT	VIA records target count
LCVO	CALC/VIA records overflow percentage
LJAI	Journal after images
LJBI	Journal before images
LRFB	Percent reads found in buffer
LLKR	Locks requested
LLKS	Select (share) locks
LLKU	Update (nonshare) locks

Local Mode Indexing Statistics

Command	Display
LISR	Index searches
LSPL	SR8 index record splits
LSPW	SR8 index record spawns
LSTA	SR8 index records stored
LERA	SR8 index records erased
LSTB	SR7 index records stored
LERB	SR7 index records erased
LORP	Orphans adopted
LILV	Total index levels searched, all searches
LILB	Index levels searched, best case
LILW	Index levels searched, worst case

Local Mode SQL Statistics

Command	Display
LSQL	SQL commands executed
LAMR	AM recompiles
LRDE	Rows deleted
LRFE	Rows fetched
LRIN	Rows inserted
LRUP	Rows updated
LSRT	SORT commands executed
LRSR	Total rows sorted, all sorts
LRSM	Minimum rows sorted, in a single sort
LRSX	Maximum rows sorted, in a single sort

17

ASG-Replication Suite Real-Time Option Interface

This chapter includes these sections:

Replication System Statistics	518
Replication Record Statistics	519
Replication Exceptions	520

PreAlert can display the statistics maintained by ASG-Replication Suite Real-Time Option (herein called Real-Time Option). Please refer to the *ASG-Replication Suite Real-Time Option User's Guide* for a description of these statistics.

Use these 2 line commands to display replication statistics:

- The REPS line command mimics the REP SHOW display.
- The REPA line command mimics the REP RECORDS display.

Additionally, several of the replication statistics have been incorporated into PreAlert's IDMS System Exception Analysis. Refer to ["IDMS System Exception Analysis" on page 343](#).

Replication System Statistics

The REPS line command displays the Real-Time Option system statistics in a format similar to the REP SHOW command. Refer to the *ASG-Replication Suite Real-Time Option User's Guide* for a full description of these statistics.

Figure 228 • REPS line command

```

COMMAND:          I13          15:05:15.2  01.112  32.75% .TUT for Tutorial
IDMS IDMS13       V13      IDMS INTERFACE ACTIVE  TASKS:  14    .00/SEC

REPS ASG Real-Time Replication Statistics
+ Subtask: Active          DML Gateway: Active          DB/2 SubS:      D61T
+ MQSeries: Active        On-Line Trace: Inactive      DB/2 Plan:  REPRMP01
+-----+-----+-----+-----+
+ CV Iteration   :          238  Records Created:          263
+ Records Cached :           0  Cache Storage   :          232
+ Max Cache Stg  :      20,971,520  Cache Stg HWM   :      6,324
+ DMLQ Recs Put  :          213  DispQ Recs Put   :           11
+ DMLQ Recs Dropd:           50  DispQ Depth    :           0
+ Records Applied:          213  Last Cache Time:    00-00000.547135
+ Immediate Apply:           11  Cached Apply   :           202
+ Apply Errors   :           0  Time Since Last:    *not-available*
+-----+-----+-----+-----+
+ Latency for Last Commit Process:
+ Cache: 00-00000.002238  MQSeries: 00-00029.220707  Convert: 00-00005.50927
+ Apply: 00-00000.140701                                Total: 00-00034.87291
+ Time Since Last Execution:
+ Cache: 03-20699.730040  MQSeries: 03-20670.507094  Convert: 03-20664.99782
+ Apply: 03-20664.997215

```

Replication Record Statistics

The REPR line command displays Real-Time Option record statistics. Refer to the *ASG-Replication Suite Real-Time Option User's Guide* for a description of these statistics.

Figure 229 • Replication record statistics

COMMAND:	I13	15:09:02.7	01.112	13.56%	.TUT for Tutorial
IDMS IDMS13	V13	IDMS INTERFACE ACTIVE	TASKS: 14	.00/SEC	
REPR REC=ASG*					
+ Record name	Store	Modify	Connect	Disconnect	Erase
+ ASG-EMPLOYEE	100	0	0	0	100
+ ASG-PHONE	0	0	0	0	0
+ ASG-SHIFT	0	0	0	0	0
+ ASG-SAL-GRADE	0	0	0	0	0
+ ASG-OFFICE	1	0	0	0	1
+ ASG-DEPARTMENT	0	0	0	0	0
+ ASG-SKILL	0	0	0	0	0

Use these keywords to tailor the replication record statistics display.

Keyword	Function
REC=mask	Specify 1 to 8 record name masks.
STR>nnn	Display records with a store count greater than or equal to <i>nnn</i> .
STR<nnn	Display records with a store count less than <i>nnn</i> .
MOD>nnn	Display records with a modify count greater than or equal to <i>nnn</i> .
MOD<nnn	Display records with a modify count less than <i>nnn</i> .
CON>nnn	Display records with a connect count greater than or equal to <i>nnn</i> .
CON<nnn	Display records with a connect count less than <i>nnn</i> .
DIS>nnn	Display records with a disconnect count greater than or equal to <i>nnn</i> .
DIS<nnn	Display records with a disconnect count less than <i>nnn</i> .

Keyword	Function
ERS> <i>nnn</i>	Display records with an erase count greater than or equal to <i>nnn</i> .
ERS< <i>nnn</i>	Display records with an erase count less than <i>nnn</i> .

Replication Exceptions

These replication system statistics are included in PreAlert's IDMS System Exception analysis. See ["IDMS System Exception Analysis" on page 343](#) for more information.

RSP>*nnn* and RSP<*nnn*. Replication cache storage percentage. Percentage of available cache storage in use (used by Real-Time Option). This storage is allocated from the CA-IDMS CV's region and is limited by the ADGTAB table.

RSH>*nnn* and RSH<*nnn*. Replication cache storage high-water-mark percentage. This is the high-water-mark of cache storage used by Real-Time Option. It is expressed as a percentage of the maximum allowed cache storage.

RLC>*n . nnnn* and RLC<*n . nnnn*. Replication latency for last commit process. This is the time difference between a Commit on CA-IDMS and that same Commit processed on the target DB.

RAD>*n . nnnn* and RAD<*n . nnnn*. Replication apply delay. This is the current latency of DML records in MQSeries. Calculated as the time difference between last cache execution and last apply process.

RAE>*nnn* and RAE<*nnn*. Replication apply error count. The number of new apply errors encountered by ASG-Connection Manager for SQL statements processed by Real-Time Option.

Appendix

Messages - IDMS Line Command

The IDMS Line Command displays warning messages with specific CV condition. The following are the messages with the condition they represent:

SHORT-ON-STORAGE

All Storage Pools are full some of the cushion in each pool is being used.

MAX-TASK-CONDITION

The maximum tasks limit has been reached.

RLE-SHORTAGE

The percentage of Resource Link Elements (RLEs) in use has exceeded 90 percent.

RCE-SHORTAGE

The percentage of Resource Control Elements (RCEs) in use has exceeded 90 percent.

DPE-SHORTAGE

The percentage of Deadlock Prevention Elements (DPEs) in use has exceeded 90 percent.

DATABASE-NOT-AVAIL

Some other condition has been found. Any additional tasks will be suspended until the condition has been relieved.

TASK STATISTICS NOT AVAILABLE

The CV has been generated with TASK STATISTICS OFF. PreAlert needs TASK STATISTICS COLLECT to monitor task statistics.

Messages - MLOG Line Command

SMF RECORDING DISALLOWED AT INSTALLATION

The default SMF record ID was specified as zero in the USERDATA macros. This disallows logging to the SMF datasets. Use a sequential dataset for logging.

SMF CONFLICTS WITH DATASET KEYWORDS

The SMF= keyword was entered with dataset keywords (DSN=, BLK=, ...). Logging is allowed only to SMF or a sequential dataset, not both.

INVALID SMF RECORD ID

SMF record IDs 128 through 255 are available for user-written records. Specify a correct SMF record ID in the SMF= keyword.

USER NOT ALLOWED SMF RECORDING

Logging to SMF has been denied through the user security exit. Use a sequential dataset for logging.

DSN= KEYWORD REQUIRED

Dataset attribute keywords have been entered without the dataset name keyword (DSN=). Include a dataset name using the DSN= keyword.

DATASET IN USE BY ANOTHER PREALERT USER

The dataset specified through the MLOG line command is currently being used by another PreAlert user. Only one user may be logged to a dataset. Allocate a different dataset.

Messages - Log File Open Errors

MLOGFILE NOT OPEN

A logging request has been made, but the log file has not been defined. Use the MLOG line command to direct logging to either SMF or a dataset.

MLOGFILE OPEN FAILED

The OPEN for the log file has failed. Check the MVS job messages, or specify a different dataset through the MLOG line command.

INVALID MLOGFILE DCB ATTRIBUTES

The DCB attributes for the log file are invalid. Use the MLOG line command to allocate a dataset with the correct DCB attributes.

MLOGFILE OPEN ERROR *abc-rc*

An abend has occurred during the OPEN of the log file. The abend code (*abc*) and return code (*rc*) are displayed also.

MLOGFILE DYNAMIC UNALLOCATION ERROR *rrrr-iiii*

An error has been detected while trying to dynamically unallocate the log file. The dynamic unallocation error reason (*rrrr*) and information (*iiii*) codes are displayed also.

MLOGFILE DYNAMIC ALLOCATION ERROR *rrrr-iiii*

An error has been detected while trying to dynamically allocate the log file. The dynamic allocation error reason (*rrrr*) and information (*iiii*) codes are displayed also.

Messages - Logging Activity Errors

MLOG RECORDING SUSPENDED - BUFFER GETMAIN FAILED

The GETMAIN for buffer storage failed, insufficient private region is available to hold the logging buffers. All previous logging requests will be kept, all new logging requests will be denied until the buffers can be written. Use the MLOG line command to allocate a log file.

MLOG RECORDING SUSPENDED - BUFFERS FULL

The maximum buffer capacity (specified in the USERDATA macros) has been reached. All previous logging requests will be kept, all new logging requests will be denied until the buffers can be written. Use the MLOG line command to allocate a log file.

ATTACH FOR SHOPMLWT ABENDED *abc-rc*

The ATTACH for the log file writer sub-task (SHOPMLWT) has abended. The abend code (*abc*) and return code (*rc*) are displayed.

MLOGFILE WRITER TASK ABEND *abc*.

An abend (*abc*) has been detected in the log file write sub-task. If a D37 abend occurs (log file full), use the MLOG line command to allocate a new log file to continue logging.

MLOGFILE WRITER TASK TIMEOUT

The log file writer sub-task did not complete after executing for 10 seconds. PreAlert will recover any buffers not successfully written and attempt to write the buffers again. If the message continues, allocate the log file on a faster device or reduce the number of logging requests.

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